S-4698 S

THE LANCET.

No. 4193. Vol. CLXVI. LONDON, SATURDAY, JANUARY 9, 1904. [Pp. 120+40.

CONTENTS.

AN ADDRESS on the Future of Electro-therapeusis. Delivered at the Annual Conversazione of the British Electro-Therapeutic Society on Dec. 18, 1903, by Sir ISAMBARD OWEN, M.A., M.D.Cantab., F.R.C.P. Lond., Physician to, and Lecturer on the Principles and Practice of Physic at, St. George's Hospital, &c. 69

A LECTURE on Sterility. Delivered at the Medical Graduates' College and Polyclinic on Oct. 26th, 1903, by PETER HORROCKS, M.D., F.R.C.P. Lond., Senior Obstetric Physician to Guy's Hospital 70

A CLINICAL LECTURE on Seven Cases of Cæsarean Section. Delivered in the Leeds General Infirmary on Nov. 27th, 1903, by J. B. HELLIER, M.D.Lond., M.R.C.S. Eng., Obstetric Physician to the Infirmary and Lecturer on the Diseases of Women and Children in the Yorkshire College, Leeds 76

ORIGINAL ARTICLES.

Kelly's Method of Cystoscopy in the Female. By THOMAS WILSON, M.D.Lond., F.R.C.S. Eng., Obstetric Officer to the General Hospital, Birmingham; Honorary Surgeon to the Lying-in Charity, &c. 79

Glandular Fever. By JOHN W. BYERS, M.A., M.D. M.A.O. (Hon. Causa) R.U.I., Professor of Midwifery and of Diseases of Women and Children, Queen's College, Belfast; Physician for Diseases of Women to the Royal Victoria Hospital, Belfast, &c. 84

Pathogenesis of Deafness due to Chronic Non-suppurative Middle-ear Disease. (Synonyms: Sclerosis of the Middle Ear, Dry Middle-ear Catarrh, Otosclerosis, Fixation of the Stapes, Otitis Metia Insidiosa, Chronic Progressive Deafness, &c.) By D. CHALMERS WATSON, M.B., F.R.C.P. Edin. — (*Illustrated*) 84

The Operative Treatment of Hernia in Infants and Young Children, illustrated by 114 Consecutive Cases. By ROBERT CAMPBELL, B.A., M.B. R.U.I., F.R.C.S.Eng., Surgeon to the Belfast Hospital for Sick Children 88

Tuberculosis of the Tonsils in Children. By L. KINGSFORD, M.D.Edin., D.P.H.Cantab. 89

Preliminary Note on the Prophylactic Action of Garlic against Tuberculous Diseases. By Dr. GIULIO CAVAZZANI 90

CLINICAL NOTES:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

Notes of a Case of Hæmaturia due to the Hæmorrhagic Diathesis. By H. B. A. PEARSON, L.R.C.P.Lond., M.R.C.S.Eng. 91

Operative Treatment of a Perforated Gastric Ulcer. By JOHN H. TONKING, M.B. Lond., L.R.C.P.Lond., M.R.C.S. Eng., Surgeon to the West Cornwall Miners', Women's, and Children's Hospital 91

A Case of Concurrent Attack of Urticaria and Malarial Fever. By Dr. GEORGE PAPAKOSTA, Greek Army Medical Service ... 92

A MIRROR OF HOSPITAL PRACTICE.

LONDON HOSPITAL:
25 Consecutive Cases of Operation upon the Stomach. (Under the care of Mr. C. W. Mansell Moullin) 92

GOVERNMENT CIVIL HOSPITAL, HONG-KONG:
A Case of Double Amputation; Recovery. (Under the care of Mr. E. A. R. Laing) 95

MEDICAL SOCIETIES.

PATHOLOGICAL SOCIETY:
The Staphylococcus Aureus and Rheumatic Fever.—Dermoid Tumours of the Brain.—Racemose Aneurysm of the Brain.—Pulsating Exophthalmos with Aneurysms of the Internal Carotid. — Epithelioma of the Cervix treated by Passive Immunisation Therapy of Dr. Otto Schmidt 96

REVIEWS AND NOTICES OF BOOKS.

Traité d'Hygiène. Procédés Rapides de Recherche des Falsifications et Altérations. Par le Dr. P. Smolensky. Traduction de russe par S. Brédo et A. Zaguelmann. Annotée par L. Guiraud et A. Gautié 97

Encyclopædia Medica. Vol. 13: Ulceration to Zinc Poisoning .. 98

Notes on Alcohol. By Sir Walter Gilbey, Bart. 98

Consider the Children. By Honnor Morten 99

Leonora. By Arnold Bennett ... 99

Natural Physical Remedies. By H. H. Hulbert, M.R.C.S.Eng., L.R.C.P.Lond. 99

The Examination of the Urine. By J. K. Watson, M.D., C.M. Edin. 99

In Lakeland Dells and Fells. By W. T. Palmer 99

Official Year-book of the Scientific and Learned Societies of Great Britain and Ireland 100

The Swedish System of Physical Education. By Theodora Johnson 100

The Elements of Kellgren's Manual Treatment. By Edgar F. Cyriax, M.D.Edin. 100

NEW INVENTIONS.

The "Unique" Gas Griller 100

The "Facile" Food Warmer 100

An Electric Foot or Body Warmer 100

LEADING ARTICLES.

THE DENTAL REQUIREMENTS OF THE ARMY 102

THE SCOTTISH POOR-LAW MEDICAL SERVICE 102

HOUSING OF THE POOR IN DUBLIN 103

ANNOTATIONS.

Radio-activity of the Animate as well as the Inanimate 104

The Army Medical Service: Present and Future 105

Proximus Ardet Ucalegon 106

The Fat Boy of Peckham 106

More Substitution 106

The Differential Diagnosis between Malignant and Benign Tumours 107

Milk and Tuberculosis 107

The Action of Anæsthetics on Plants 108

Radium at Bath 109

Peritonitis in Scarlet Fever 109

A Pure Malt Whisky Bill 109

The British Ophthalmic Hospital at Jerusalem 109

Antidipso 110

Pulmonary Tuberculosis in Lewis 110

The Ski 110

Mistletoe 111

Gangrene of the Kidney 111

Wardrop's Operation for Aneurysm 111

The University of London: Institute of Medical Sciences ... 112

Another Fatal Accident on Scafell 112

LOOKING BACK.

(From THE LANCET, Saturday, Jan. 7, 1826) 112

VITAL STATISTICS:
Health of English Towns 120
Health of Scotch Towns 120
Health of Dublin 121

SPECIAL ARTICLES.

Surgeons who have Won the Victoria Cross. Compiled by G. F. BLAKE, Registrar of the Royal College of Surgeons in Ireland 101

Training of, and Regulations for, Midwives in Italy 113

The Fees of Medical Witnesses .. 114

The Regius Professorship of Medicine at Oxford 116

The Annual Report of the Chief Inspector of Factories and Workshops for the Year 1902. Part I. Reports. (First Notice) 116

Medicine and the Law: Burroughs, Wellcome, and Co. v. Thomson and Capper 119

The Services: The Medical Department of the United States Navy 121

Liverpool 126

Wales and Western Counties Notes 127

Scotland 127

Ireland 128

Paris 128

Berlin 129

Switzerland 130

Egypt 130

New York 130

CORRESPONDENCE.

The Administration of Chloroform to Man and to the Higher Animals (Dr. J. Blumfeld, Messrs. John J. Griffin and Sons, Ltd.) 122

The Borderlands of Infectious Diseases and their Management (Mr. Edward Dean Marriott, Dr. Edw. Casey) 123

Administration of Antidiphtheritic Serum by the Mouth (Dr. W. Herbert Gregory) 123

The Phosphates and Urea of Urine (Dr. A. W. Gilchrist) ... 124

The Treatment of Certain Forms of Obstinate Constipation by Entero-colostomy (Dr. Gilbert Kempe, Mr. W. Arbuthnot Lane) 124

A Pathological Curiosity (Mr. Jehan M. Barlet) 124

The Lung Reflex of Abrams (Dr. A. G. Auld) 125

London Hospitals and Central Control 125

The New Regulations for the Indian Medical Service 126

Medical Men and the Income-tax 134

The Self-consuming Cigarette ... 135

"Dump" 135

Poor-laws of the Continent and in America (Dr. L. Kidd) 135

The Vaginal Douche (Dr. Heywood Smith) 136

OBITUARY.

John Knowsley Thornton, M.B., C.M.Edin. 131

Sir George Thomson, K.C.B., M.B., C.M.Aberd., late Surg.-Colonel I.M.S. 131

Charles Frederick Moore, M.D. Glasg., F.R.C.S.Irel., &c. 132

Robert Vicars Fletcher, F.R.C.S. Irel., L.R.C.P.Irel., &c. 132

Robert Mansfield Tagert, M.D. Glasg., F.R.C.S.Irel. 132

Deaths of Eminent Foreign Medical Men 132

MEDICAL NEWS.

Preservatives in Food 122

The Furious Driving of Motor-cars 131

Foreign University Intelligence 132

Some Novel Patents 132

Midland Medical Union 132

Vaccination Expenditure 133

Presentations to Medical Practitioners 133

Donations and Bequests 133

The Plumbers' Registration Bill 133

Appointments 133

Vacancies 134

Births, Marriages, and Deaths 134

Notes, Short Comments, and Answers to Correspondents ... 134

Medical Diary 136

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX.

MEDICAL AND OTHER BOOKS AND PUBLICATIONS.

COVER. PAGE

BAILLIERE, TINDALL & COX:—
Browne & Stevenson.. Squint Occurring in Children ..
Campbell, H. Respiratory Exercise in Treatment of Disease.. 1
Eccles ..... Hernia..... 1
" ..... Descended Testis 1
Herbert .... Cataract Extraction 1
May ..... Diseases of the Eye 1
Sewill ..... Dental Surgery 1
Tubby .... Appendicitis..... 1

BALE, SONS & DANIELSSON:—
Worth ..... Squint..... 1

CHURCHILL, J. & A.:—
Fenwick, E. H. .... Diseases of the Kidney 1
Lazarus-Barlow.... General, &c., Pathology 1
Medical Directory for 1904 1
Wallace .... Decay in Teeth 1

CORNISH BROS. (BIRMINGHAM):—
Foxwell .... Enlarged Cirrhotic Liver 1
" .... Cardiac Murmurs 1

DAVIDSON:—
Dunn..... Practice of Rethinoscopy 1

GLAISHER:—
Herschell .. Intragastric Technique 1
Kingscote .. Asthma 1
Munn..... Cancer..... 1

GRIFFIN & CO.:—
Foxwell .... Heart and Lung Disease 1

HEALTH RESORT PUBLISHING CO.:—
Reinhardt .. Handbook of Open-Air Treatment 1

LEWIS:—
Bastian..... Aphasia 1
" ..... The Brain as an Organ of Mind 1
" ..... Paralyses 1
" ..... Forms of Hysterical &c., Paralysis..... 1
Campbell, H. Fluoring, &c. 1
" Headache 1
Herring .... Sterilisation of Urethral Instruments 1

PENTLAND Y. J.:—
Bruce ..... Principles of Treatment 1
Cunningham. Text-book of Anatomy 1
" Manual of Anatomy.... 1
Gibson & Russell.... Physical Diagnosis 1
Muir & Ritchie.... Manual of Bacteriology 1

SAUNDERS & CO.:—
New Books 1

WRIGHT & CO. (BRISTOL):—
Startin ..... Care of the Skin and Hair 1

BAILLIERE, TINDALL & COX:—
Allingham .. Diseases of the Rectum 9
" .. Colotomy, &c. 9
" .. Operative Surgery 9
Bigg ..... Constipation 8
Blumfield.... Anæsthetics 9
Campbell, K. Refraction of the Eye.. 9
Carpenter .. Syphilis in Children.... 8
" .. Affections of the Heart 9
Lake ..... Diseases of the Ear 8
Vincent .... Nutrition of the Infant 8

CASSELL & CO.:—
Bland-Sutton Tumours 7
Brase ..... Materia Medica &c. 7

CASSELL & CO.—(Continued).
Gould ..... Surgical Diagnosis 7
Herman .... Diseases of Women 7
Manson, Sir P. Tropical Diseases 7
Marsh ..... Diseases of the Joints .. 6
Morris, H. .. Surgical Diseases of the Kidney and Ureter .. 7
" .. Surgery of the Kidney and Ureter 8
" .. Injuries and Diseases of Genital, &c., Organs .. 8
Morris, M. .. Diseases of the Skin.... 7
Treves, Sir F. Operative Surgery 7
" Intestinal Obstruction.. 7
" Surgical Anatomy..... 7
" Surgical Operations 7
Tuc ..... Medical Treatment 7
" ..... Food in Health &c. 7

CHURCHILL, J. & A.:—
Bopiby .... Surgical Pathology 5
Builin .... Malignant Disease..... 8
Barter's Ocular Therapeutics 8
Payne & Pye-Smith. Text-book of Medicine 3
Penwick & Fenwick .. Medical Diagnosis 3
Goodhart & Still ..... Diseases of Children.... 3
Haig ..... Uric Acid 3
" ..... Diet and Food 3
Hainer ..... Hygiene 3
Harley ..... Diseases of the Liver .. 8
" ..... Extrusion of Gall-stones, &c. 8
" ..... Sounding for Gall-stones, &c. 8
Hartridge .. Refractive of the Eye .. 3
" .. The Ophthalmoscope .. 3
Heath & Lane Practical Anatomy 3
Heath & Pollard.... Minor Surgery..... 3
Hughes & Swain.... Practical Anatomy 3
Jacobson & Steward .. Operations of Surgery .. 3

CHURCHILL—(Continued).
Marsh ..... Clinical Lectures and Essays 8
Morris's Treatise on Human Anatomy 3

GLAISHER:—
West ..... Gram ar Kidney, &c. .. 6

GRIFFIN & CO.:—
Journal of Anatomy and Physiology... 6

KEGAN PAUL & CO.:—
Tyler ..... Diseases of the Eye 6

LEWIS:—
Martindale & Westcott.. Extra Pharmacopœia .. 6

LONGMANS GREEN & CO.:—
Stephens & Christophers Study of Malaria 8

RENSHAW:—
Wood ..... Application of Trusses 8

SAUNDERS & CO.:—
Anders ..... Practice of Medicine .. 5
Wickham .. Operative Surgery..... 5
Stendath .. Clinical Anatomy 5
Hirst ..... Diseases of Women 5
Nothnagel's Practice..... 6
Scudder .... Fractures 5
Webster .... Text-book of Obstetrics 5

SMITH, ELDER & CO.:—
Lawson .... Diseases and Injuries of the Eye..... 6

WRIGHT & CO. (BRISTOL):—
Carpenter .. Diseases of Children.... 8

MEDICAL LIBRARIES, &c.:—
Baker—Books wanted 8
Behnke—Stammering 8
Lewis's Medical and Scientific Library 7
Prince's Medical Lending Library 6

OFFICIAL AND GENERAL ANNOUNCEMENTS.

APPOINTMENTS VACANT:—
Army Medical Service 77
Bethnal Green Infirmary 78
Chalmers Hospital for the Sick, &c. 76
Chelsea Hospital for Women 78
Cheltenham General Hospital 76
Croydon General Hospital 77
General Hospital, Birmingham 76
General Infirmary, Leeds 78
Hospital for Sick Children, Great Ormond-street 76
Hull Royal Infirmary 77
Irish Medical Association, Dublin 77
Leicester Infirmary 76
Lincoln County Hospital 77
Liverpool Stanley Hospital 76
Metropolitan Hospital, Kingsland-rd. 77
National Hospital for the Paralysed.. 78
New Hospital for Women, Euston-road 77
Norfolk and Norwich Hospital 76
North Staffordshire Eye Infirmary.... 76
Rochdale Infirmary 76
Royal Prince Alfred Hospital, Sydney 77
Royal Southern Hospital, Liverpool.. 78
Samaritan Free Hospital for Women 77
Stamford, Rutland, and General Infirmary 78
St. Mark's Hospital for Fistula, &c. .. 77
Stocker, Craven-street 76
Tiverton Infirmary and Dispensary .. 77
University of London 77
Victoria Hospital for Children, Chelsea 76
West Ham and East London Hospital, Stratford 78
Westminster General Dispensary 76
Wolverhampton Eye Infirmary 77

ASSISTANCIES, MEDICAL:—
Alpha, Sheffield 85
Graham & Shepherd, Sunderland 84
No. 109, L.O., Strand..... 85
No. 116, L.O., Strand..... 85
No. 130, L.O., Strand..... 85
No. 132, L.O., Strand..... 84
No. 133, L.O., Strand..... 84
No. 134, L.O., Strand..... 84
No. 140, L.O., Strand..... 85
No. 143, L.O., Strand..... 85
No. 144, L.O., Strand..... 85
No. 145, L.O., Strand..... 84
No. 146, L.O., Strand..... 85
No. 149, L.O., Strand..... 84
No. 151, L.O., Strand..... 86
No. 154, L.O., Strand..... 88
Rowlands, Towyn 84
Stocker, Strand 84
Tritton, Bushey Heath..... 85
Turner, Adelphi 84
Wilmot, Bidwell 86
Wilson, Charles-street 84

ASYLUMS, HOMES, &c.:—
Aberystwith, the Hafrris of Wales .. 72
Altadore Sanatorium, co. Wicklow .. 73
Ashwood House, Kingswinford 70
Barrowood House Hospital 70
Bethel Hos. for Mental Diseases..... 75
Bishopstone House, Bedford 69
B., Junction-road 76
Bodorgan Manor, Bournemouth..... 73
Buntingford House Retreat, Herts .. 71

ASYLUMS—(Continued)
Camberwell House, Peckham-road.... 75
Capel Lodge, Folkestone..... 76
Clarence Lodge, Clapham-park 69
Coppice, The, Nottingham 70
Cotswold Sanatorium 73
Crockesbury Sanatorium, Surrey..... 74
Dalrymple House, Rickmansworth.... 76
Dartmoor Sanatorium 74
Dr., Henderon 75
Dunstone Park Sanatorium, Paignton 73
East Anglian Sanatorium Co., Suffolk 73
Fairford Retreat, Gloucestershire 69
Ferguson, Barnet 75
Flower House, Catford..... 70
Grove House, Church Stretton..... 70
Grove, The, Catton, Norwich 70
Hailey Sanatorium, Ipsden 74
Haydock Lodge, Newton-le-Willows.. 71
Haslemere Invalid Home 73
High Shot House, Twickenham 69
Hitch, Mrs., Hollington 70
Inverniith Lodge Retreat, Dumfries .. 71
Lady Superintendent, Brighton 75
Lady Superintendent, Streatham 75
Lawson, Needrach-on-Dee, Banchory 73
London Open-Air Sanatorium, Wokingham 74
Mable House, near Dumfries 73
Maternity House, New King's-road .. 73
Matron, Brighton 75
Melbourne House, Leicester..... 70
Middleton Hall, Co. Durham 69
Midland Open-Air Sanatorium..... 73
Moat House, Tamworth 70
Moorcote, Eversley 70
Nordrach in Wales..... 73
Nordrach-upon-Mendip Sanatorium .. 74
Northlands Retreat, Wandsworth 76
North's House, Winterbourne..... 75
No. 153, L.O., Strand..... 75
No. 430, L.O., Strand..... 76
Open-Air Cottage Hos., Loughton 75
Portland, Winchelsea 74
Plas-yn-Dinas, Wales 74
Plympton House, South Devon 70
Shaftesbury House, Formby..... 71
Springfield House Private Asylum, Bedford 69
St. Andrew's Hospital, Northampton 70
Stewart, Dr., Dunmarry 75
St. Luke's Hospital, E.C. 70
Stocker, Craven-street 76
Stone House, Canterbury 75
Stourfield Park Sanatorium, Bournemouth 74
Street Court, Kingsland 72
Stretton House, Church Stretton 70
Sunny Aigiers 69
Thundercliffe Grange, nr. Rotherham 75
Tower House, Leicester 70
Turner, Adelphi 69
Vale of Clwyd Sanatorium..... 74
Villa Albanese, Palermo 76
Warnsford Asylum, Oxford 70
West Malling-place, Kent 72
Whitmead Sanatorium, near Faraham 75
Winchester House, Kingston-hill 76
Wonford House, Exeter 70
Wye House, Buxton..... 70
Wyke House, Isleworth 70
Yarrow House, Broadstairs 72

BATHS:—
Smedley's, Matlock 78
Spa Hydro. Inst., Tunbridge Wells .. 76

COMPANIONS:—
Attendant, Balham..... 86
No. 129, L.O., Strand..... 86

FINANCIAL, &c.:—
Birkbeck Bank 79
English and Scottish Law Life Office.. 76
Equitable Reversionary Interest Soc. 76

HOTELS:—
Montreux Hotel and Chateau, Belmont 69
Port Orotava—English Grand Hotel .. 69

HOUSE & ESTATE AGENTS:—
Bedford & Co., Wigmore-street 83
Millar, Son & Co., Pall Mall 83
No. 155, L.O., Strand..... 83
No. 177, L.O., Strand..... 83
Committee-room:—
No. 130, L.O., Strand..... 83

LIFE & FIRE ASSURANCES:—
General Life Assurance Co. 76
National Provident Institution 76
Prudential 76

MEDICAL ACCOUNTANTS &c.:—
Turner 83

MEDICAL AGENTS:—
Hall & Hardwicke 82
Imperial Medical Agency 81
Lee & Martin..... 81
Manchester Clerical Association 82
Manchester Medical Agency 78
Medical Agency 82
Needes, Herbert 82
Needes, J. C. 81
Orridge..... 83
Peacock & Hadley 81
Scholastic, Clerical, & Med. Assoc.... 79
Turner 80
Wilmot & Son 82

MEDICAL SCHOOLS (LONDON):—
Cooke's School of Anatomy 66
West London Post-Graduate College.. 66

NURSING INSTITUTES:—
Baker-street Assoc. of Trained Nurses 66
General Lying-in Hospital, Lambeth 66
General Nursing Institution 66
Stretton House, Church Stretton 70
Hos. for Sick Children, Gt. Ormond-st. 69
Incorporated Society of Trained Masseuses 69
Leeds Trained Nurses' Institution 66
London Nurses' Association 66
Male and Female Nurses' Assoc..... 64
Male Nurses' Association 69
Male Nurses' Co-operation 66
Middlesex Hos. Trained Nurses' Inst. 69
Mildmay Nursing Institute 67
Nurses' Co-operation, Portland-place 69
Queen Charlotte's Lying-in Hos..... 69
St. Bartholomew's Hos. Nurses' Inst. 69
St. John's House 64

NURSING INST.—(Continued).
Temperance Male and Female Nurses' Co-operation 68
Temperance Male Nurses' Co-operation 68

OFFICIAL NOTICES:—
Central London Ophthalmic Hospital, Gray's Inn-road 65
Central London Throat, &c., Hos.... 65
King's College, London 65, 66
London Hospital Medical College 65
London School of Tropical Medicine 65
Mount Vernon Hos. for Consumption 65
Naval Medical Examination 67
Royal London Ophthalmic Hospital.. 65
St. Maritan Free Hospital..... 65
Surgical Aid Society 66
University College, London 65
University of Birmingham..... 65
University of Cambridge 65

PARTNERSHIPS & PRACTICES:—
A., Piccadilly 83
Dr. W., Spridlington 83
G., Golden-square 85
G., Temple Chambers 84
Medicus, Walton 83
No. 131, L.O., Strand..... 85
No. 135, L.O., Strand..... 85
No. 137, L.O., Strand..... 84
No. 138, L.O., Strand..... 83
No. 139, L.O., Strand..... 83
No. 141, L.O., Strand..... 84
No. 141, L.O., Strand..... 84
No. 142, L.O., Strand..... 83
No. 147, L.O., Strand..... 83
No. 148, L.O., Strand..... 84
No. 156, L.O., Strand..... 83
No. 157, L.O., Strand..... 83
No. 158, L.O., Strand..... 83
No. 159, L.O., Strand..... 83
No. 160, L.O., Strand..... 83
No. 161, L.O., Strand..... 83
No. 162, L.O. Strand..... 83
Stevenson, Manchester 83
Stocker, Craven-street 84
Wells, Guy's Hospital 84
Y. Z., Bayswater 84

RAILWAY & STEAMSHIP CO.'S:—
Elder, Dempster & Co.—
Trips to West Indies 78
New Zealand Shipping Co. 74
Orient-Pacific Line Pleasure Cruises.. 76
Royal Mail Steam Packet Co.—Tours 76

SCHOOLS, PREPARATORY, &c.:—
Head Master, Bovey Tracey 67
Manchester Physical Training College 66
School Skin Conway 67
St. Martin's, Cliftonville, Margate .. 66
St. Monans, Hadley Wood 78

TUTORS & LECTURERS:—
Castab, (M.D. Brux.), L.O. 67
Fellowship.... 67
Gemmell 67
Gooch 66, 67
Kerin 67
Knight 67
Matthews & Co 67
M.D. 67
Paton..... 67
Van Prearo.... 67
Weymouth 66

(For Index to Trade and Miscellaneous Advertisements see page 4.)

J. & A. Churchill, Publishers.

Goodhart and Still. — Pediatrics.

THE DISEASES OF CHILDREN. By JAMES F. GOODHART, M.D., F.R.C.P., Consulting Physician to the Evelina Hospital for Sick Children; and G. F. STILL, M.D., F.R.C.P., Assistant Physician to the Great Ormond Street Hospital for Children. Seventh Edition. 12s. 6d. net.

Hamer. — Hygiene.

A MANUAL OF HYGIENE. By W. H. HAMER, M.D., D.P.H., F.R.C.P., Lecturer on Public Health, St. Bartholomew's Hospital; Assistant Medical Officer of Health of the Administrative County of London. With 93 Illustrations. 12s. 6d. net.

Fagge and Pye-Smith. — Text-Book of Medicine.

TEXT-BOOK OF MEDICINE. Begun by the late Dr. CHARLES HILTON FAGGE, sometime Physician to Guy's Hospital. Completed after his death and since Revised and in part Rewritten by PHILIP HENRY PYE-SMITH, M.D., F.R.S., Consulting Physician to Guy's Hospital. Fourth Edition. Two Volumes. £2 2s.

THE EDINBURGH MEDICAL JOURNAL.—"Dr. Pye-Smith has succeeded in retaining much of the freshness and fascination of the original work, while greatly adding to its usefulness. In no previous edition has such a high standard of general excellence been attained."

Jacobson and Steward. — Operations of Surgery.

THE OPERATIONS OF SURGERY. By W. H. A. JACOBSON, Surgeon, Guy's Hospital; and F. J. STEWARD, Assistant Surgeon, Guy's Hospital. Fourth Edition. 550 Illustrations. Two Volumes. £2 2s.

Hartridge. — The Ophthalmoscope.

THE OPHTHALMOSCOPE. A Manual for Students. By G. HARTRIDGE, F.R.C.S., Senior Surgeon to the Royal Westminster Ophthalmic Hospital. Fourth Edition. With 77 Illustrations. 4s. 6d.

Hartridge. — The Refraction of the Eye.

THE REFRACTION OF THE EYE. A Manual for Students. By G. HARTRIDGE. Twelfth Edition. With 105 Illustrations. 6s.

Haig. — Uric Acid.

URIC ACID AS A FACTOR IN THE CAUSATION OF DISEASE. By ALEXANDER HAIG, M.D., F.R.C.P. Sixth Edition. With 75 Illustrations. 15s.

Haig. — Diet and Food.

DIET AND FOOD CONSIDERED IN RELATION TO STRENGTH AND POWER OF ENDURANCE, TRAINING, AND ATHLETICS. By A. HAIG. Fourth Edition. 2s.

Bowlby — Surgical Pathology.

SURGICAL PATHOLOGY AND MORBID ANATOMY. By ANTHONY A. BOWLBY, F.R.C.S., Assistant Surgeon to St. Bartholomew's Hospital. Fourth Edition. With 186 Engravings. 10s. 6d.

THE LANCET.—"Accurate and concise, yet conciseness has not been gained at the expense of accuracy, and the descriptions are sufficiently full for any student's requirements."

Heath and Pollard. — Minor Surgery.

MANUAL OF MINOR SURGERY AND BANDAGING. For the Use of House Surgeons, Dressers, and Junior Practitioners. By C. HEATH, F.R.C.S. Twelfth Edition, edited by BILTON POLLARD, F.R.C.S., Surgeon to University College Hospital. Fcp. 8vo, with 195 Engravings. 6s. 6d.

LANCET.—"Thoroughly deserves such long-enduring success. The present edition is fully worthy of those which have preceded it."

Fenwick. — Medical Diagnosis.

STUDENT'S GUIDE TO MEDICAL DIAGNOSIS. By SAMUEL FENWICK, M.D., F.R.C.P., and W. SOLTAU FENWICK, M.D., B.S. Ninth Edition. With 139 Engravings. 9s.

For the Study of Anatomy.

TREATISE ON HUMAN ANATOMY.
BY VARIOUS AUTHORS.
Edited by HENRY MORRIS, F.R.C.S.
THIRD EDITION. 846 Engravings (many coloured). 30s. net.

PRACTICAL ANATOMY.
By A. W. HUGHES, M.B., M.C.Edin., and A. KEITH, M.D.
54 Plates and 471 Figures. Part I., 10s. 6d. Part II., 8s. 6d. Part III., 10s. 6d.

PRACTICAL ANATOMY.
By C. HEATH, F.R.C.S., and J. ERNEST LANE, F.R.C.S.
NINTH EDITION. 321 Engravings. 12s 6d.

London: J. & A. CHURCHILL, 7, Great Marlborough Street.

INDEX—(CONTINUED).

TRADE AND MISCELLANEOUS ADVERTISEMENTS.

COVER.

PAGE

CHEMISTS & DRUGGISTS:—
Hermann—
Ichthyol Co.'s Preparations II
Maltine Manufacturing Co.—
Maltine with Cod Liver Oil IV

FOODS:—
Carnrick & Co.—
Liquid Peptonoids IV
Fry's Pure Concentrated Cocoa III
" Malted Cocoa III
Valentine's Meat Juice Co.—
Meat Juice II

MED. & SURG. APPLIANCES:—
Bailey & Son—
Patent Abdominal Belts III
Indiarubber Urinals III

WINES, BEER, SPIRITS, &c.:—
Waltham Bros.—
Brown Stout III
Nursing Stout III

BICYCLES & TRICYCLES:—
Bayliss, Thomas & Co.—
Excelsior Motor Cycles II

BOTTLE MERCHANTS:—
Isaacs 9
Islington Glass Bottle Company 9
Kilner Brothers, Ltd. 9

CARRIAGES, HORSES, &c.:—
Armstrong—
Coachmen's and Grooms' Liveries 80
Cortland Wagon Co.—
Cortland Brougham II
Marston's Patent Brougham Ransom II
Mayhorn & Son—
Medical Coupé II
Motor Mart—
Motors for Medical Men II
Pullast—Motor Cars II
Midgley—Single Opening Brougham .. II
" John Ambulance—
Invalid Carriages II
67, George-street, Portman square—
Secondhand Carriages II

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Medical Iral 30
Hypo-Hypophosphites 33
Allenburys Throat Pastilles 30
Hyalin 31
Anglo-American and Continental Pharmaceutical Co.—
Colchi-Sal Capsules 34
Benzi-Oil Liniment 34
Antikamnia Chemical Co.—
Antikamnia 24
" and Heroin 24
Armour & Co.—
Suprarenalin 45
Suprarenalin Solution 45
Battle & Co.—Bromidia 54
Bayer Co.—
Aguria 48
Asprin 48
Aristochin 48
Mesotan 48
Helmitol 48
Thiocin 48
Trional 48
Protargol 48
Citarin 48
Bilion's Ovo Lecithine Depôt—
Bilion's Ovo Lecithine 34

CHEMISTS—(Continued).
Benger's Food, Ltd.—
Liquor Pancreaticus 41
Liquor Pepticus 41
Brin's Oxygen Co.—Brin's Oxygen 56
British Antitoxine Manufacturing Co.—
Antitoxine 57
British Druggists—
Medicinal Peroxides 49
British Iron Milk Syndicate—
Iron Milk 58
Bullock & Co.—
Pessina Porri 54
Acid Glycerine of Pepsine 54
Burgoyne, Burbidges & Co.—
Xeroform 50
Creosotal 50
Burroughs, Wellcome & Co.—
Kepler Solution 36
Tabloid Products 40
Beef and Iron Wine 34
Tabloid Medicine Chests and Cases 35
Tabloid Products 39
Christy & Co.—
Glyco-Thymoline 42
Denver Chemical Co.—
Antiphlogistine 47
Dunsford's Fluid Magnesia 56
Evans Sons Lescher & Webb, Ltd.—
Alginoid Iron 49
Fairchild Bros. & Foster—
Pepsencia 27
Zymine Peptonising Tubes 26
Hemabolo ds 21
Hewlett & son—
Liq. Santal Flav. c. Buchu et Cubebs 56
Kirby & Co.—Furgen 45
Kreochyle Co.—Hard Sore-Glycerole 38
Maltine Manufacturing Co.—
Maltine 37
" with Cascara Sagrada 37
" with Creosote 37
Martin H. Smith Co.—
Glyco-Heroin 43
Menzies, D., & Co.—
Sorated Toilet Powder 46
Mertens—Frunean Paper 60
Newbery & Sons—
Pulvis Jacobi Vur 57
Parke Davis & Co.—
Adrenalin, Takamine 28
Egg Emulsion of Cod Liver Oil .. 29
Salmon & Co.—
Slingor's Nutrient Suppositories .. 57
Roeman—Antidiphtheritic Serum, &c. 53
Salamon & Co.—Parest Chloroform .. 57
Sanitas Co.—
Pine Oxygen 54
Sanatogen Co.—Sanatogen 17
Scott & Bowne—Scott's Emulsion 48
Smith & Co.—
Chloroform 20
Tela Vesicatoria 20
Sup. Canth. Liq 20
Squire & Sons—
Glycero-Terperoin 25
Elixir Terperoin 25
Pastil Terperoin 25
Kasak Elixir 25
Seanine 25
Permaglobin 25
Wilcox & Co.—
Santal-Midy 56
Dusart's syrup of Lacto-Phosphate 56
Morrhuol 56
Marrhuol-Creasote 56
Apiolin 56
Grimault's Cigarettes 58
Wyeths—
Neuracetin and Combinations 56
Zimmermann, A. & M.—
Urotropin 57

EMBALMERS:—
Pearce 63

FILTERS:—
Defries & Sons—Pasteur Filter 14
Kent's Sanitary Pure Water Still 61

FOODS:—
Aylesbury Dairy Co.—
Humanised Milk 44
Benger's Food, Ltd.—
Peptonised Beef Jelly 41
Peptonised Chicken Jelly 41
Bleichsley's Diabetic Preparations 58
Bonthron & Co.—Gluten Bread, &c .. 58
Brand & Co.—Essence of Beef 59
Burroughs Wellcome & Co.—
Perfected Wyeth Beef Juice 38
Cadbury's Cocoa 52
Cahoin Co.—Cahoin 58
Callard & Co.—New Diabetic Foods .. 60
Cerebos 54
International Plasmon, Ltd.—
Plasmon 13
Plasmon Cocoa 13
Plasmon Arrowroot 13
Lazenby & Son—Soup Squares 49
Liebig's Extract of Meat Co., Ltd.—
Lemco 60
Nestlé's Food 54
Nicolay & Co.—
Hemasapon 18
Rowntree's Elect Cocoa 59
Savory & Moore—
Nutrient Food 23
Peptonised Cocoa and Milk 12
" Milk 12
" Coffee & Milk 12
" Milk-Chocolate 12
Tibbles' Vi-Cocoa, Ltd.—Vi-Cocoa 50
Van Abbott & Sons—Gluten Flour 59
Vitol, Ltd.—Vitol 22
Wellford & Sons—
Humanized Milk 16
Asses' Milk 16

FURNITURE, &c.:—
Army and Navy Stores Furnishing Co. 61
Carter—Invalid Furniture 86

HOSIERS, &c.:—
Doctor's Supply Co.—
Dr. Rassael's Hygienic Underwear 61

MED. & SURG. APPLIANCES:—
Cox—X-Ray, &c., Apparatus 12
Domen Belts Co.—Domen Belts 55
Downing Radiant Heat Co.—
Downing Radiant Heat and Light Treatment 62
Evans & Wormall—
Improved Locker 60
Hanley—
Improved Patent Trusses 14
Abdominal Belts 14
Leslies, Ltd.—
Plasters, Surgical dressings, &c... 19
Millikin & Lawley—Ostrology, &c. .. 61
Pond—Arch Support Soles 55
Pope & Plante—
Elastic stockings 64
Abdominal supporting Belts 64
Robinson & Sons—Gamgee Tissue 11
St. Dalmas & Co.—
Leicester Perfect Plaster-of-Paris Bandages 61
Leicester Surgical Strapping 61
Wood—
Eureka Crêpe Velpeau Bandages.. 64
Real—Repello Clinical Thermometer.. 62

MINERAL WATERS:—
Contrexeville Pavilion 59
Davis—Farasp Water 60
Friedrichshall Aperient Mineral Water 60
Hogg & Son—Piperazine Water 60

MINERAL WATERS—(Continued).
Ingram & Royle, Ltd.—
Carlsbad Salt 52
Jewsbury & Brown—
Mineral Waters 53
Robinson's Concentrated Waters..... 59

PHOTOGRAPHY:—
Martin—Developing Kodak Spools .. 85

PRINTERS & ENGRAVERS:—
Cooke & Co.—Brass Name Plates 10
Culleton—
Brass Door Plates 9
Heraldry, &c. 9

SANITARY APPLIANCES &c.:—
Condy's Fluid 2
Defries & Sons—
Equifex Disinfector 14
Manlove, Alliott & Co.—
Steam Disinfectors 62
Newton, Chambers & Co.—Izal 30

STATIONERY, &c.:—
Mabie, Todd & Bard—
Swan Fountain Pen 12

TAILORS, BOOTMAKERS, &c.:—
Fisher & Sons—
Tailors and Habit Makers 10
Hamilton & Co.—
Dress Suit 10
Capote Ulster 10
Parapluie Overcoat 10
Russian Fur Co.—
Fur-lined Overcoats 10

TYPEWRITING, &c.:—
Cambridge Typewriting Agency, Adelphi 9
Taylor's Typewriters Co.—
Typewriters 85

VACCINE LYMPH:—
Assoc. for Pure Vaccine Lymph 63
Calf Vaccine Institute 63
Evans Sons Lescher & Webb, Ltd.—
Calf Lymph 48
Faulkner's and The British Calf Vaccine Institution 63
Hime—Glycerinated Calf Vaccine .. 63
Jenner—Institute for Calf Lymph .. 63
Kebman—Pure Aseptic Glycerinated Calf Lymph 63
Kenner's Calf Lymph Establishment.. 63
Wyleys, Ltd.—Calf Lymph 63

WINES, BEER, SPIRITS, &c.:—
Buck & Co.—"G s" Diabetic Whisky 54
Booth's Distillery—Felix 15
Buchanan—
Black and White Scotch Whisky.. 57
Gautier's Liqueur Brandy 10
Hennessy's Three Star Brandy 56
Martell's Three Star Brandy 2

MISCELLANEOUS:—
H. M. Y., Piccadilly—
Director requires 85
Boulton & Paul—
Portable Wood and Iron Buildings 64
Buck—
Electric Foot and Body Warmer.. 64
No. 182, L.O., Strand—
Cure 85

EVERY FRIDAY. **THE LANCET.** PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

IN THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (commencing at any time) are payable in advance.

ADVERTISING.

Books and Publications	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
Situations Wanted and Vacant...		0 4 6
(Seven Lines=about 65 words.)	Every additional line	0 0 6

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, *accompanied by a remittance.*

Cheques and Post Office Orders (Crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Railway Bookstalls, and may be ordered through any Bookseller.

Answers are received at the Office, by special arrangement, to Advertisements appearing in THE LANCET.

OFFICES: 423 AND 424, STRAND, LONDON, W.C., AND 1, 2, AND 3, BEDFORD STREET, ADJOINING.

An Address
ON
THE FUTURE OF ELECTRO-THERAPEUSIS.

Delivered at the Annual Conversazione of the British Electro-Therapeutic Society on Dec. 18th, 1903,

BY SIR ISAMBARD OWEN, M.A., M.D.CANTAB., F.R.C.P. LOND.,

PHYSICIAN TO, AND LECTURER ON THE PRINCIPLES AND PRACTICE OF PHYSIC AT, ST. GEORGE'S HOSPITAL, ETC.

MR. PRESIDENT AND GENTLEMEN,—I have first to thank you for the compliment you have paid me in inviting me to address you this evening. Next I have the pleasant task to perform of congratulating you upon the success that has attended your efforts to establish this society and to place it on a substantial basis. I learned of its foundation with much interest and satisfaction. It is in my opinion a society that was greatly needed and one that has in its power to render important service to the cause of scientific medicine. The treatment of disease by physical methods, and in particular the application of recently discovered forms of physical energy to this purpose, has been pushed forward of late years with such enthusiasm and such remarkable claims have been made in its behalf that the profession at large is greatly in need of sober guidance and of a source of authoritative information in the matter. In the face of the eager expectation and extravagant promise that certain of the most recent developments of physical therapeutics have in many quarters evoked it is very desirable that those members of our profession who are in a position to undertake a really scientific investigation of the value of the new methods should draw together both to assert their position in the eyes of their professional brethren and by union of effort to strengthen the cause of serious and critical inquiry into the matter. May I take it as an earnest of the critical spirit in which the association is approaching its task that you have invited to this desk to-night, not a professed specialist in electro-therapeutics or neural pathology, but a general physician whose field of work obliges him to take a comprehensive view of such a matter and whose personal reputation is, if anything, that of being somewhat unduly sceptical in his estimates of therapeutic results.

Your society will, I think, need an ample measure of the critical—may I say even of the sceptical—spirit in its self-imposed task of dealing with some of the physico-therapeutic questions that are now agitating the medical world, for the atmosphere in which your work will have to be done is one that may best be described as oppositely charged. The many unexpected revelations which physical science has yielded during the last 20 or 30 years have prepared the public mind for the anticipation of physical marvels and whetted its appetite for new things. The report of each new departure in physical treatment falls nowadays on eager ears, both within and without the medical profession. As each fresh discovery in the realm of pure physics is followed by its application to medical treatment the news is speedily flashed across Europe and whatever region it reaches it is sure to find there an expectant body of adventurous spirits eager to devote themselves to working the new field of therapeutic enterprise opened to them. Our therapeutic pioneers for the most part, let me frankly grant, are genuine and honest enthusiasts; but a large element among them is none the less, if one may judge from its published utterances, as little fitted to deal with a question of scientific therapeutics as the followers of Walter the Penniless were to undertake the siege of Jerusalem. To complicate the situation further, these questions are not always left entirely in the hands of members of our own profession. The movements of the regular troops are perturbed by those of the camp followers who are claiming to take a place in the fighting line. Members of various occupations remotely connected with medicine, ignorant alike of pathology and diagnosis, affect to take an active share in directing medical treatment and find their pretension admitted seemingly on the paradoxical ground that their sole armamentarium is a piece of powerful physical apparatus, wielding forces as yet but imperfectly measured or understood. Need we be surprised in the circumstances at the premature tales of wonder that occasionally reach our ears or at the roseate hues in which we find the future of terrestrial medicine painted? "*Redeunt Saturnia regna.*" The age of miracles is to be restored. Cancer is to be reft of its sting, gout and rheumatism to cease from troubling, the tuberculous are to be healed, the osteo-arthritic to rise up and walk; all that is needed is for the sufferers to place themselves, like Rider Haggard's "She," in the path of the latest discovered form of radiant energy. The art of medicine is reduced to a degree of simplicity that Sangrado himself could scarce have improved on. To sift in such cases the grains of sober fact from the chaff in which they are buried is, I understand, a part of the work which your society has proposed to itself, and all honour to you for undertaking it. Difficult and even invidious as the task must needs be it is one of urgent necessity, for unless the two are separated a wind threatens ere long to arise that will carry both wheat and chaff indiscriminately away. To a period of exaggerated expectations one of equally groundless distrust must inevitably succeed. The popular idol whose day of unmerited favour is past is liable to become the victim of equally needless opprobrium, and it may be long before a hearing can be obtained for a calm and impartial judgment. It is to your society and to societies of like aim that we shall have to look to save the solid work that is being done in these matters from discredit and to incorporate it finally in the growing fabric of accepted medicine.

No philosopher, as far as I know, has ever yet thought of making inquiry into that most suggestive subject, the psychology of therapeutic belief and therapeutic error. Few philosophers, it is true, have the necessary experience of medical practice and few practising medical men have the necessary leisure for philosophic meditation. Were a philosopher with the requisite experience of medicine to arise I should incontinently urge him to render his profession this service. The results, I feel sure, would be of practical no less than of theoretical value. Generation after generation we find ourselves, or perhaps I ought to say we find our neighbours, straying into the same fallacies of observation and reasoning on therapeutic questions without taking heed of the warning that the admitted mistakes of our forefathers should give us. How else can we explain the meteoric series of new remedies and improved modes of treatment that whirl periodically into the therapeutic sky and blaze for a term of years in the lustre of a reputation that seems to be amply guaranteed only in the end to sink silently into oblivion and to be heard of no more? One by one, it is true, genuine advances in therapeutics are being made; one by one remedies for disease of unquestioned efficacy are added permanently to our store, but their volume compares ill with the mass of once popular specifics that now lie as discarded litter along the path that scientific medicine has laboriously travelled.

In view of this ordinary phenomenon of medical history I do not think you will regard me as displaying an unconscionable degree of scepticism in surmising that a large part of the recent literature of certain electro-therapeutic methods will eventually share the common fate and be left derelict on the roadside in its turn. While awaiting the advent of our imaginary teacher may I so far usurp his rôle as to suggest that while some of the marvellous therapeutic results we have recently read about will be referred by our philosophic successors to inadequate diagnosis, a still larger class will be ascribed by them to imperfect calculation of prognosis in the individual case? May I venture to surmise that our medical Socrates will claim to have reduced a part of our alleged curative results to the mere natural termination of transitory functional disorders, a part to the psychical relief of symptoms mainly of psychical origin, and yet another part to the natural pauses or fluctuations in the march of organic diseases which, like most forms of pulmonary tubercle for example, normally tend to run a remittent or intermittent course—that, in fine, he will find a large number of plausible therapeutic conclusions to have been arrived at either by the common error of neglecting comparative methods of investigation or by the equally fatal habit of drawing deductions from minor premisses without taking the trouble to verify the accuracy or even to define the terms of the major?

But when destructive criticism has done its worst and all that it can reasonably challenge is left out of the account, the body of established fact which recent electro-therapeusis

can claim as her own will not, I undertake to say, appear either small or unimportant. If we limited our gaze to one department of electro-therapeutical work alone; if we even contended it had done nothing for certain outside this department; if it could be said to have shown no more than this: that in the various forms which radiant energy assumes we have a manageable means of modifying profoundly the vital processes of the individual cells; that in these modes of force we have, further, the power of checking, or of attenuating, or of rendering the tissues resistant to the invasion of certain parasitic organisms; and that these forces can be practically utilised for the effectual checking of such terrible maladies as lupus, epithelioma, and rodent ulcer;—putting the matter thus, I say, at its lowest conceivable estimate, we should have to allow that electro-therapeusis must be credited with one of the most remarkable steps in therapeutic knowledge that the present generation has seen.

But though we may single out this branch of electro-therapeutical work as being that in which its most assured successes have been won, solid advance has beyond doubt been made in many directions besides. Less conclusive, perhaps, we must admit the results in some other departments as yet to be, but therein is no ground for discouragement. Electro therapeutic methods, we must remember, are still in their infancy and though in other branches of work it may not as yet be possible to adduce equally complete chains of proof we may well be satisfied for the present to see a body of presumptive evidence steadily growing and to recognise hopeful signs of what future years may bring forth. Hardly though we may credit the effects, at times alleged to have been obtained, of radiant energy on deeply seated growths our knowledge of its penetrating powers justifies the conjecture that future improvements in apparatus may bring that, too, within the range of therapeutic possibilities. Though we must as yet suspend judgment on the curative effects claimed for induced vibrations in so suspiciously long a list of constitutional maladies the knowledge we already possess of their influence on the metabolic processes of the body forbids us altogether to dismiss the expectation that here, too, we may be really upon the track of therapeutic methods of the greatest value.

Nor can anyone fail to recognise, though fortunately it has so far eluded the eye of the sensation-monger, the extreme interest and promise of the important work that has already been done upon the subject of phoresis. Phoresis as a means of treatment is as yet in its earliest experimental stage but the possibilities that lie hidden in it seem great. It is no unjustifiable hope that one day it will enable us to solve the standing difficulty of ordinary therapeutics and place in our possession the means of accumulating effective doses of powerful chemical or physiological remedies in those parts of the organism in which their action may be beneficial without the present necessity of diffusing them more or less equally through the fluid contents of the body and thereby inducing their effects on organs which they influence injuriously. How far these and many other tempting possibilities are likely to be fulfilled we shall look to your society from time to time to tell us.

Let us, moreover, not underestimate the value of electro-therapeutic work by omitting to take into account the unconscious influence it has exerted upon the course of contemporary physiological and pathological thought. If there have been times when the tendency of physiology and pathology has been too strongly towards a purely chemical explanation of their problems, recent electro-therapeutic work must be counted among the causes which have made for a fuller consideration of the part which physical forces play in the intimate life of the cell. By the patient, reserved, and critical study of your fascinating specialty, gentlemen, by the discountenance which a strong association such as this can show towards the elements of sensationalism and extravagance with which some parts of the subject have unfortunately been associated, you will, I feel sure, be able ere long to rescue the practice of it from the hands of pretenders and to place it in its desired position as an essential branch of medical therapeutics. It is time, I think, that the public learned to recognise the danger it is running in playing with the powerful physical agencies that are the subject of your investigations. That electric applications should, like the Turkish bath, be occasionally taken in harmless forms and degrees by healthy people, avowedly as luxuries, is natural and need not perhaps call for medical animadversion, but the public should be fully advised that if these physical agencies are used for serious therapeutic purposes they must be used in a serious manner and under serious responsibility by persons trained to understand the nature and the possibilities of the maladies they are treating as well as the mere construction of the apparatus employed, and that, like other serious remedies, these agencies may be sources of danger if administered by uninstructed or half-instructed persons.

The prospective importance of physical methods in treatment, as well as the importance of physical considerations in physiology and pathology, suggest one further question which I will venture, in conclusion, to commend to the attention of the association. Is the place at present assigned to the study of physics in the medical curriculum commensurate with the anticipated requirements of future medical practice? For myself I should unhesitatingly say no. Medicine has been so habituated to regard chemistry as its especial handmaid among the pure sciences that I think it has been a little blind to the rapid advance of physical investigations and to the bearing they have on its own field of work. The tendency has been, I fear, to treat physics rather as an appendage to chemistry than as the fundamental science on which chemical conceptions themselves are largely based. I am not, I admit, raising this question on purely utilitarian grounds. In the educational world I have repeatedly urged, and not always to unwilling ears, that any scientific education, to be worthy of the name, must needs begin with the study of mathematical physics. Difficult, we all know, it must be to find room for any fresh extension of scientific training in the crowded years of the student's career; but is there no unnecessary lumber yet included in the curriculum that could be jettisoned without practical loss to meet so important a claim? In the search for a countervailing remission of requirement I for one would be hardy enough to lay a sacrilegious hand on the sacred ark of anatomy itself. In the vast mass of minute anatomical detail that the ordinary student is caused to commit to memory, could there not be found, say, a poor ten per cent. of matter that the average medical practitioner would be none the worse off for never having been obliged to learn? But this, I fear, is too large a subject to discuss at the close of a brief address. I will merely add that for my own part I should esteem the average man neither the worse educated nor the less fitted for the treatment of ordinary disease if in his early days he had given a little more attention to the undulations of ether and a little less to the details of the sphenoid bone.

A Lecture
ON
STERILITY.

Delivered at the Medical Graduates' College and Polyclinic on Oct. 26th, 1903,

BY PETER HORROCKS, M.D., F.R.C.P. LOND.,
SENIOR OBSTETRIC PHYSICIAN TO GUY'S HOSPITAL.

GENTLEMEN,—When two people marry it is natural and healthy that they should desire to have children. Anything that militates against this consummation, if it be at all widespread in its operation, would lead to a diminution in the rate of progress in population and if continued for a few generations might result in the decadence of a nation. Fortunately, in this country at all events, there is no falling off in fertility and we are so numerous that we can afford to spare many thousands who emigrate every year. Still, it is a fact that, speaking broadly, about one marriage in ten remains childless.[1] Almost every practitioner is consulted sooner or later on account of sterility and therefore it is important that he should have as clear a knowledge as possible of the causes that may exist and of the remedies that are available. Now in the human species it is necessary for the successful production of a child that there should be: (1) a living ovum; (2) one or more living spermatozoa; (3) that these two should meet and coalesce; (4) that the meeting place should be a suitable one; (5) that the ovum

[1] Duncan: Sterility.

after impregnation should anchor inside the uterine cavity; (6) that the human nest (endometrium) should be healthy; and (7) that there should be nothing to prevent the uterus from developing to term or at all events to such a time that the child is viable.

1. A LIVING OVUM.

The woman produces the egg. She begins to do this at puberty and she ceases at the climacteric. She produces an egg before she menstruates, as is evidenced by the fact that in India girls not seldom become pregnant before ever they have menstruated. Menstruation is looked upon by most physiologists as the parturition of an unimpregnated ovum. The human ovum has rarely, if ever, been seen in the unimpregnated state as it passes out of the uterus. For it is so microscopic, being not much larger than a white blood corpuscle. Hence one knows practically nothing about its movements, if any, when alive—whether, for instance, it has amœboid movements or not. Still reasoning by analogy, one may fairly say that an ovum might be as lifeless as a dead spermatozoon, the lack of movements of which can be easily detected. I have seen patients where apparently no other conclusion could be come to than that they had only dead ova, although one could not prove it. That it is so sometimes is strongly supported by the fact that you may have certain seeds which are incapable of germinating in any soil, although indistinguishable from other seeds which will grow. When a woman menstruates regularly and moderately, when she has no discoverable defect or disease, when married life is carried out perfectly, and the spermatozoa are known to be potent, then should such a woman remain sterile during the years of greatest productivity—namely, from 25 to 37—one can say that it may have been that the ova or eggs were dead. Of course, they might be alive and yet could not be fertilised by that particular seed, for there are cases on record where a sterile marriage has been dissolved and each party has subsequently had children by a different wife and husband respectively.[2] Darwin proves this also in regard to certain animals. It would appear that the ova produced by a female during the first and last 12 years of menstrual life are not nearly so fertilisable as those produced during the middle period. Thus, a girl marrying any time between 13 and 25 years is not so likely to have children, or at all events as many children, as if married between 25 and 37 years; and between 37 and 49 years she is still less likely to have children. Not only so, but a woman who bears children, say, up to 37 years of age often remains sterile after that, although living under the same conditions of married life.

When the ovaries are not acting well the woman is apt to get fat. The relation between obesity and ovarian function is one of great interest. You know that after the climacteric a woman as a rule puts on flesh—she gets fat especially in the abdomen, so that she is what is called matronly. Many ladies strongly object to this natural obesity and will try to remedy it by various means, such as tight corsets, belts, and the like, but they are so uncomfortable that they are obliged to leave them off. If the ovaries are removed by operation the same increase in adipose tissue is noticed. Eunuchs are sleek and fat for a similar reason. Remove the testicles and a man gets fat. A capon is a cock chicken made fat by castration. Hence obesity, although not a cause of sterility, is often associated with it. The ovaries are not acting or are acting badly, no ova are being produced, or only few or only bad ones, and the sterility and obesity are due to the same cause. Hence, speaking generally, a fat girl is less likely to conceive than a thin one. No doubt you all know instances of fat women who are fertile. Probably in such cases the obesity has no relation to ovarian inactivity. Food seems to have a good deal to do with the fertilisability of the ova. It is a well-established fact that poor folks have more children as a rule than rich folks. When a woman has rich food and as much of it as she likes, when she lives well every day of her life and perhaps takes wine, when she does no work and perhaps but little play in the way of physical exercise, her chances of motherhood are less and the average number of children she produces is less than in the case of a hard-working woman who perhaps not seldom has barely enough to eat and what she does get is simple plain fare which her richer sister could not eat.

The same is true of animals, and it is an interesting point in this connexion that many wild animals, especially of the nobler species, never breed whilst in captivity, as if in their wild state they were able to obtain certain food which they never get in captivity and which enables them to breed. They may lose all sexual desire and refuse to cohabit or they may cohabit freely and yet remain sterile. Anæmia or plethora, nerve conditions (especially depression and melancholy), alcoholism, and drugs are all apt to cause sterility, probably through interference with the production or the proper maturation of the ova. Interbreeding, too, may act in the same way. Certainly it is a well-known cause of sterility. An heiress is often sterile, particularly when she inherits her wealth through being an only child. The race is dying out through some factor acting on generation after generation. And interbreeding is one such factor. Hybridity causes sterility for the same reason, though the male is more frequently affected than the female, in animals at least.

[2] Duncan, op. cit.

2. ONE OR MORE LIVING SPERMATOZOA.

It is remarkable what an apparent waste there is in nature. For it is practically certain that an ovum can be impregnated by one spermatozoon. Indeed, it is possible that this is always the case and certainly no one would assert that more than two or three ever penetrate a particular ovum. And yet when you consider how many thousands exist in the semen ejaculated in one emission you will realise how bountifully nature provides. It is the same throughout the animal and vegetable kingdoms.

When marriage proves sterile the husband generally assumes that it is his wife's fault. And as a rule she meekly accepts this spoken or tacit verdict and will frequently weep in secret and will sometimes get depressed and melancholy, feeling that she is not able to satisfy her husband's wish and that there is something lacking in her that other women possess. But as a fact the male is at fault in about one in ten cases, so that if you find after careful investigation that there is no discoverable cause for sterility in the wife you must then turn your attention to the husband. You may discover that his semen contains no spermatozoa at all or only a few feeble ones or only dead ones. Very likely in such a case he may not know that there is anything at all the matter with him. In some cases, however, you will find a cause of absolute sterility in the male, for example a congenital defect, and as a rule the husband knows in such a case that he is at fault. Sometimes he refuses to be examined and when he does so you may be pretty sure that he has a reason for it.

3. THAT THESE TWO SHOULD MEET AND COALESCE.

Probably 99 per cent. of all cases of sterility are due to something which prevents the ovum and spermatozoon from meeting. In a healthy condition the ovum maturates in the Graafian follicle which bursts and sets it free and it is caught by the fimbriæ of the Fallopian tube with such unerring accuracy that this is called the Devil's bite (*morsus diaboli*). It makes its way down the Fallopian tube and into the uterine cavity, where it sojourns for a time and if not impregnated it passes out with the menses and is lost. If impregnated it is thought by some that in a normal condition the fertilisation—that is, the penetration of the ovum by the spermatozoon—takes place within the Fallopian tube, and that may be the case; but in all probability normal fertilisation takes place also within the uterine cavity. Certainly we know from pathological conditions that fertilisation may take place with the ovum still in the Graafian follicle (ovarian ectopic gestation), or in the peritoneal cavity (abdominal gestation), or within the Fallopian tube (tubal gestation). All these facts prove that the spermatozoa can and do travel up the uterine cavity and along the Fallopian tubes and into the peritoneal cavity and on to the ovaries and this fact is of the highest importance. There might be some condition which prevented the ova from reaching the uterine cavity, as, for example, a double salpingitis, leading to blocking of, say, the ostium abdominale of the Fallopian tube. The fimbriæ or tentacles get inflamed, swollen, shortened, and spoiled so that the ovum is no longer caught but falls into the peritoneal cavity or into the meshwork of inflammatory lymph thrown around the tube end. Nearly always both tubes are affected and the patient remains sterile for years. But in a few instances after this period of sterility some spermatozoa manage to work their way past the obstacle and to get at, and to fertilise, the ovum where it grows in this abnormal position, constituting one of the varieties of ectopic gestation and proving a source of great danger to the mother. Prostitutes are sterile largely through gonorrhœal mischief in the tubes.

This power of travelling on the part of the spermatozoa is of great importance. Some years ago I was consulted by a young woman who was unmarried but who was four months pregnant. The hymen was not only intact but I could not pass my finger through the orifice it was so small. Obviously there had been no penetration and she was, so far as the law considers it, a *virgo intacta*. But she admitted to me that four months previously a married man had taken liberties with her and had actually spent and deposited his seed on to her vulva. But there had been no coitus in the ordinary sense and this was borne out by the condition of the parts. Nevertheless the spermatozoa had worked their way into the vagina from the vulva and had finally reached the ovum and impregnated it. When the semen is deposited within reach of the ovum obviously out of the thousands upon thousands of spermatozoa the liveliest and strongest is pretty sure to win the race and to reach the ovum first, and apparently when the spermatozoon has buried its head into the ovum changes begin at once which prevent any other spermatozoa arriving later from being able to penetrate also.

Again, you must remember that coitus is by no means synonymous with conception. Coitus is an act whereby the semen is deposited within the female. In a normal condition it is deposited in the vagina, generally in the posterior fornix. Sometimes no doubt it is ejaculated directly into the cervical canal and possibly directly into the uterine cavity and hence the occasional failure of thorough vaginal syringing immediately after coitus in preventing impregnation.

How long it takes for the spermatozoa after being deposited in the vagina to reach the ovum we do not know, but that it sometimes takes many days is extremely probable. You can imagine that if coitus took place just after a monthly period was over it would take longer than if it took place just before an expected period; for in the former case the ovum has only just started from the ovary and hence the spermatozoa would have to travel along the uterus and into the Fallopian tube before meeting with it; whereas in the latter case the ovum has already reached the uterine cavity where, in the human nest, the spermatozoa reach it without having far to travel. Hence many believe that the best time for coitus to take place, in order that pregnancy may follow, is just before an expected period; others think that the best time is just after a period is over. The Jews, who are just as prolific as other people, have strict laws on the subject. A certain number of days must elapse after a period is over, I think it is seven, and then the woman must take a bath in running water of a certain depth, width, and length, after which she is considered to be clean and coitus can be renewed. In the East-end of London rich Jews provide these baths for the poor people. In the West-end there are numerous baths of this kind for rich Jewesses. I believe the best time for a successful coitus to take place is a day or two before the "menstrual aura"[3]—i.e., the sensations which a woman has before the actual flow begins—generally more or less pain in the region of the ovaries for from a few hours to a day or two before the flow.

Some women will tell you that they know which particular coitus caused the pregnancy, because they had a different sensation at the time. But if you inquire carefully you will find that they are wrong so often that this supposed peculiar sensation is of no practical value. As a rule it is merely the orgasm. It is a prevalent idea that the orgasm is necessary. I believe myself that it is helpful, in that it is possible that it causes a better, more complete, and more copious emission on the part of the male, that it may perhaps cause some of the seed to be driven or drawn into the uterine cavity, and that it may help in bursting the Graafian follicle and setting the ovum free, or if already free, may assist it in its passage along to the normal goal—that is, the uterine cavity. But for impregnation neither pleasure nor desire is essential. I have known mothers of large families who have assured me that they have never had the least desire for coitus and have never derived the least pleasure from it. Nay, more, sometimes they positively loathe it and submit to it simply as a duty, but a duty which to them is abhorrent. And yet they have fallen pregnant and have reared large families. In other cases there has been some cause for agonising pain during coitus—pain which has destroyed all possibility of pleasure—and yet pregnancy has followed. Again there are many cases of pregnancy following rape. This may take place where the woman is unconscious, either from a blow, or during anæsthesia, or when she has fainted, or advantage may be taken of her when she is undergoing what she imagines is legitimate treatment; in which case she is quite innocent and, so far as she is concerned, the conception is immaculate. The fact is that desire and pleasure are merely nature's means for obtaining the deposition of the semen within reach of the ovum. If this is accomplished it does not matter much whether the desire or the pleasure is present or not, or whether the woman dislikes it, or suffers pain, or is unconscious or ignorant of what is being done, and therefore innocent; pregnancy can and does follow at times under each one of these conditions.

Anything that effectually prevents the ovum from reaching the cavity of the uterus will produce sterility or at best will only permit of an extra-uterine gestation. Beginning at the starting place you sometimes find the surface of the ovary so abnormally thick that the ova are unable to burst through; you may also get inflammatory products thrown out round about the ovary, so that even if the ovum does escape from the Graafian follicle it gets caught in the meshes of the more or less organised lymph and there perishes; or the ovary itself gets separated from the abdominal end of the Fallopian tube so far that the ova are not caught by the fimbriæ; or the fimbriæ become inflamed and are swollen and thickened and shortened and utterly spoiled as unerring egg-catchers. You may find them bent and twisted so that it is impossible to discover the ostium abdominale. You get peri-oöphoritis which binds the fimbriæ to the ovary so that any ovum that maturates has no chance of getting into the tube at all unless it happens to burst within the tiny area embraced by these adherent fimbriæ, and even then it is often unable to get far owing to the accumulation of a fluid which is the beginning of a tubo-ovarian cyst and which causes blocking of the ostium abdominale of the tube or of the canal of the tube not far from that opening. Again you may find the tubes bent, or stenosed, or, what is more frequent, distended with fluid through being blocked at both ends. The fluid may be purulent, watery, or sanguineous—pyosalpinx, hydrosalpinx, or hæmatosalpinx. There may be disease in the tube such as salpingitis, simple, gonorrhœal, or tuberculous. The tubes may be congenitally long or short or even absent, or stenosed or kinked. Sometimes the ostium uterinum is blocked and there are cases where an ovum has become impregnated whilst lying in that part of the tube which runs through the uterine wall. If when the ovum reaches the cavity there is anything there which will kill it, such as a gonorrhœal endometritis, sterility will ensue or if the uterus be absent then the ovum cannot enter it.

Anything which will prevent the spermatozoa from reaching the ovum will likewise cause sterility. The more vigorous the spermatozoa the greater the obstacles they can overcome. Mention has already been made of pregnancy following the deposition of semen on the vulva only. In imperforate hymen, in congenital absence of the vagina, in occlusion of a portion of the vagina, and in some congenital defects of the cervix uteri the spermatozoa are effectually prevented from reaching the ovum.

A very common experience amongst women is that the semen comes out after withdrawal, either at once or soon after or perhaps not until the erect posture is assumed. In this last case it may be a mere mechanical flowing out and not due to spasmodic contraction. Sometimes you get what is known as vaginismus, which is a painful contraction of the vaginal walls due to many causes such as urethral caruncle, lupus minimus about the hymen, small ulcers, vaginitis, pelvic inflammations, and the like, but the worst form of all is of nervous origin. Such cases, however, give rise more frequently to absolute dyspareunia, whereas in the cases I allude to, where the patient says the semen comes out directly or soon after coitus is over, you will often find a sensitive vagina which contracts on slight stimulation, but also one which contracts powerfully with both the muscle of the vaginal wall proper and with the levatores ani and other neighbouring muscular fibres which can diminish the vaginal capacity by contraction. Or you may find a disproportion in the relative parts; the vagina may be too short or too narrow; in other words, its capacity may be too small or the penis may be too big. In either case the vagina is stretched to

[3] The term "menstrual aura" is one which I coined when I left the National Hospital for the Paralysed and Epileptic in 1884 as it seemed useful to connote the subjective sensations which a woman has before her menstrual flow.

an unusual degree during coitus and hence there is considerable elastic recoil post coitum. You will find, however, many women who are not sterile who experience this expulsion. Obviously the vagina could not expel every drop. Its walls would be at least wet with the semen after it had all apparently been expelled and therefore there would still be myriads of spermatozoa on the mucous membrane. Nevertheless it is better to remedy this if you can so that all the seed shall be retained. The vagina may be inflamed and there may be pus in it which kills the spermatozoa. Chronic vaginitis is a prolific cause of sterility. It may be simple but is mostly of gonorrhœal origin. If you see a recent case of gonorrhœal vaginitis—I mean one recently acquired—you will practically always find urethritis as well; hence the scalding micturition. In chronic cases there is a yellow discharge which is fatal to spermatozoa whether the gonococcus is present or not. Unfortunately gonorrhœal vaginitis is apt to spread upwards into the uterus and along the tubes to the peritoneum and so to set up mischief which produces a sterility which is incurable, besides leading to conditions dangerous to life. Hence the importance of dealing radically with gonorrhœa in women from the very first, attacking it especially in the urethra and cervical canals where the gonococci often lie hidden and escape from the germicidal lotions injected into the vagina. Green discharges in the vagina are often of an aggravated or more chronic form than the yellow. They are deadly to spermatozoa. There may be a watery discharge as from a vesico-vaginal fistula, or from a growth in the cervix, or from a fibroid tumour, or from some condition of the vagina. A watery discharge washes the semen away but it may not be so inimical to the life of the spermatozoa as the yellow or green discharges. If there be a recto-vaginal fistula the woman's complaint is not so much of sterility as that the fæces come through the front passage.

I remember operating on a woman who had a very severe labour in India. The perineum was torn right through the sphincter ani and for an inch or more up the rectum, so that the lower part of the rectum and vagina were converted into a common cavity or cloaca. Incontinence of fæces rendered her very wretched and miserable, but for several reasons she was unable to come to England for about three years after this accident and during those three years she had two more children. If a woman has had one child she has not been absolutely sterile. But she may have a very bad confinement and she may be greatly injured, so that you find a badly torn perineum and scars along the vagina and a deeply cleft cervix, with cicatricial bands running in various directions or even a tiny cervix, the bulk of it having been torn or having sloughed away. Hence the woman remains sterile afterwards and you find the cause in this scarred condition which prevents the spermatozoa reaching the ovum.

Routine vaginal syringing is a prolific source of sterility. Many women syringe knowingly to prevent conception, but some women who want children often syringe the vagina without thinking that it is spoiling their chances. You can readily understand that the fluid used in syringing is often fatal to spermatozoa, apart from washing them away mechanically. For example, a woman uses the douche in the morning and coitus takes place at night. No matter what fluid she has used—astringents, antiseptics, even plain water—all are inimical to the life of the spermatozoa and, of course, some of the fluid remains in the vagina. Moreover, constant syringing washes away the natural secretions which are obviously the proper fluid for the spermatozoa to live in. You may find the vagina dry and hot and leathery and the secretions coagulated from astringent injections. Similarly the various measures used to prevent conception damage the vaginal walls, making them harsh to the touch and often resulting in such tenderness that dyspareunia is the result.

4. That the Meeting Place should be a Suitable One.

The best place for them to meet is probably inside the uterine cavity—in fact, in the human nest. Perhaps in the Fallopian tube, where some think they most often meet, is equally good, only the ovum must quickly pass into the uterus or it would become attached to the tubal mucous membrane. For the meeting place to be in the ovary, or in inflammatory adhesions near it, or in the peritoneal cavity would obviously be bad. Again, if the ovum gets low down in the uterus it may result in an early miscarriage or in a placenta prævia. If it escapes into the cervical canal or into the vagina it is hopeless. There is no known case of an ovum taking anchorage and developing even to a slight extent within the cervical canal or vagina. The mucous membrane of these tubes seems to be incapable of giving attachment to an ovum.

5. That the Ovum after Impregnation should anchor inside the Uterine Cavity.

Possibly an ovum might be reached by the spermatozoa whilst still in the Graafian follicle; or it may be whilst still passing along the tube. But in any case it must, within a very short time of penetration by the spermatozoa, make its way into the uterine cavity and fix itself on to the mucous membrane in order that it may develop normally into a child.

6. That the Human Nest (Endometrium) should be Healthy.

Endometritis is another prolific source of sterility, more especially of relative sterility. A woman has one or more miscarriages, accidental, pathological, or artificial, during the first year or two of married life and then becomes sterile because the mucous lining of the uterus is chronically inflamed or otherwise spoilt as a nest. Curetting with a sharp curette may so destroy the endometrium as to render it incapable of carrying out its function. Similarly the application of too strong a caustic may irremediably damage it. The uterus may be tiny, undeveloped, immature, atrophied, or hyperinvoluted.

7. That there should be Nothing to prevent the Uterus from developing to Term or at all events to such a Time that the Child is Viable.

The presence of a fibroid in the wall of the uterus is a common cause of sterility. Often enough there is an accompanying endometritis. Moreover, the canal becomes tortuous and there is frequently a watery discharge which is apt to wash away the ovum. If conception takes place the uterus is unable to grow properly and miscarriage is the rule. The uterus may be obstructed in its growth by other tumours, or it may be bound down by adhesions, or it may be displaced. Curiously enough anteflexion is more commonly associated with sterility than retroflexion, though perhaps it is not in the nature of a cause but rather that it is found associated with sterility. Such women nearly always have scanty and painful menstruation and on examination you find a crescentic-shaped uterus with a conical cervix and an angle between it and the fundus more acute than usual. Probably the endometrium is largely to blame for the sterility. Retroflexion is more a cause of miscarriage than of sterility proper. Of course an inverted uterus could not sustain a child and in severe degrees of prolapse, partial and complete procidentia, there is often sterility for obvious reasons.

Sterility is divided into absolute and relative.[4] By absolute is meant where a woman never conceives at all—for example, in cases of congenital absence of the ovaries, or tubes, or uterus, or vagina. By relative is meant where a woman becomes pregnant but who either miscarries or if she goes to viability yet she only has one or two children and then she ceases to conceive.

Sometimes a woman consults you who has been married for some years and has never been pregnant at all. At other times a patient has had a miscarriage or more than one, or even a child living or dead, but she wishes for more children and yet none come. Now, in any given case that comes before you it will be necessary for you to find out the cause, if possible, in order that you may be able to remedy it. Assuming in the first place that it is the fault of the wife, you must find out her age and how long she has been married. If she is between 20 and 30 years and has only been married two years her chances are still very good supposing you discover no bar to conception. For it has been proved[5] that the number of first pregnancies during the second and third years of married life is very considerable, whereas there is a very big drop during the fourth year. That is to say, if a woman has been married more than three years without ever becoming pregnant her chances are much less than if she is only in her third year of married life. As already mentioned, a woman's best time for conceiving and bearing an average number of children is from 25 to 37 years.

[4] Matthews Duncan, op. cit.
[5] Matthews Duncan, op. cit.

The relative ages of husband and wife must be inquired into. An old man may in law be looked upon as capable of procreating, but after 50 years his powers are apt to wane and after 60 years his chances of getting children are poor. Where there is a great discrepancy in age it is as a rule the husband who is much older than the wife. A man, say 50 years of age or more, marries a girl 20 years of age. Such a marriage may be fruitful but it is not so likely as when the husband is only one or two years older than the wife and both are between 20 and 30 years of age. When the wife is very much older than the husband the chances of fruitfulness are very much less than under the converse conditions.

Sometimes you are told that during the first years of married life precautions have been taken to prevent conception, or if conception took place it has been got rid of by drugs or instruments. Perhaps this aversion to child-bearing was due to the idea that they could not afford. Sometimes it is pure selfishness, as the lady does not wish her pleasures, balls, parties, and the like, to be interfered with by pregnancy, parturition, and lactation. Later, when they are better off or when she sees some friend happy with her children, she feels she would like to have some herself. And so the precautions they have been using are omitted but to their chagrin and dismay no pregnancy follows. The precautions they have been using have damaged her. The vagina may be harsh and congested or inflamed. The os uteri may be eroded and the cervical mucous membrane inflamed and pouring out a copious white discharge. The uterine mucous membrane may be shaggy and pulpy, due to its fruit being untimely torn away. These are some of the ways in which sterility is caused by using precautions.

Again you may find that the patient has a yellow discharge and you may strongly suspect gonorrhœa. The woman may not have the least suspicion that she has that disease. I have seen cases where there was no doubt at all about it and yet where the husband denied ever having had it. As a rule, he will admit it to his medical attendant, especially if you tell him the importance of your knowing the truth. Notice any signs of masculinity: moustache or beard, hairs about the areolæ or over the sternum or along the front of the abdomen. Such women are often sterile. You will notice if the person is well developed—whether she has good breasts and nipples, whether her pelvis is well proportioned. It is best to measure the distances between the anterior superior spines and between the crests of the ilia. These should be about ten and 11 inches respectively. If they are less than this you may find an infantile pelvis and this may be due to want of development and, in fact, she may not have attained puberty, which would be found by eliciting other facts. The vulva, the development of the labia and mons veneris, and pubic hair should be noted and the condition of the hymen, imperforate, intact, lacerated, narrow opening, &c., or hermaphroditism. The presence of any cause of dyspareunia, such as urethral caruncle, kraurosis, lupus minimus, sores, venereal and other kinds, enlargement of glands in the groins, vulvitis, congenital defects in the vulva, hymen, vagina, uterus, or ovaries; vaginitis, urethritis, ruptured perineum from a past parturition, stenosis of the vagina or cervix uteri, congenital or acquired; cicatrices, pelvic cellulitis, pelvic peritonitis, hæmatocele, retro uterine effusions, uterine displacements, conical cervix, the length and width and general capacity of the vagina, and the condition of its mucous membrane as to rugæ, moisture, sensitiveness (vaginismus), and secretions. With a speculum note any tears or ulcers on the vagina or on the cervix uteri, also erosions and what kind of discharge there is, whether white, yellow, green, or red; or if there is any watery discharge or any growth in the vagina, the cervix, or the uterus, or any tumour in the pelvis or the abdomen. Note any fistulous communications with the bladder, rectum, cysts, abscess cavities, &c. Use a uterine sound and find out the length and direction and mobility of the uterus, also any stenosis of its canal, and the sensitiveness and vascularity of the mucous membrane. Make a bimanual examination and try to feel if the uterus is in its normal position and if you can feel anything in Douglas's pouch or above any of the fornices of the vagina. In Douglas's pouch you very often find the fundus uteri (retroflexion) or a prolapsed ovary, causing dyspareunia, or a distended tube, or some lymph from perimetritis or organised clot (hæmatocele).

Cases have been known where a woman has conceived after the climacteric; ovulation has apparently gone on for a short time after the change of life. I have never come across such a case. My friend, Mr. W. Cock of Peckham, tells me he has had a case. At all events it must never be forgotten that ovulation may take place without menstruation and that therefore a woman may possibly conceive although she does not menstruate. If a woman did not ovulate she could not conceive. But in such a case she would not menstruate, for menstruation is absolutely dependent upon ovulation.

The normal healthy menses should be fluid, not clotted; they should be dark in colour and with an odour peculiar to themselves. Frequently in cases of sterility you find they are clotted or offensive, or like coffee-grounds, or that they contain fleshy pieces (membranes). These point to some morbid condition of the endometrium and may lead you to the cause and cure of the sterility. You should go fully into the menstrual history. Absolute amenorrhœa is generally associated with some congenital defect in the ovaries. Concealed menstruation is of course not amenorrhœa at all and as a rule is easily cured. Sometimes a girl ovulates but has never menstruated. In such a case you find she is well developed and very often she has monthly molimina. You may find a congenital absence of, or a rudimentary condition of, the uterus. The ovaries are present and acting well. In other cases she has a temporary amenorrhœa and she may conceive before menstruation is resumed. Hence women sometimes conceive during the amenorrhœa of lactation.

It will often be necessary for you to inquire regarding coitus. Very likely you may find there is pain which varies from a mere uncomfortableness to such agony as to prevent any penetration whatsoever. Or you may discover that excessive coitus is carried on. The sterility in such a case is probably due to a weakening of the male element. You will be sometimes astonished to find absolute ignorance in regard to coitus on the part of both husband and wife. I have met with cases where marriage has never been consummated through ignorance. In two such cases that I know of when it was explained proper coitus took place and pregnancy followed. In several cases, however, where after several years of supposed married life I found the lady a *virgo intacta* it has proved to be owing to impotency on the part of the husband from congenital or acquired causes.

TREATMENT.

What has been already said in discussing the diagnosis will have suggested to a large extent the line of treatment to be adopted, but I will summarise it and put it before you as one carries it out in actual practice.

1. *No treatment.*—Where a woman is healthy and so far as can be ascertained there is no discoverable cause for the sterility and she has not been married for a full three years she may be left alone and told that she can still hope for progeny, but that if she does not become pregnant after, say, four years of married life she can then be seen again. I may mention here that when one finds that a woman has been married for some years but that marriage has never been consummated then the three years of married life must date from the consummation.

2. *Food and exercise.*—Obviously a spare diet and plenty of work, or its equivalent in physical exercise, will assist in curing the sterility. By a spare diet I mean plain food and not too much and not too often, with no alcohol of any description unless the patient requires it for some other reason. For example, a glass of bitter beer with her dinner is sometimes as good a tonic as can be given but as a rule I recommend no alcoholic drinks of any kind. Similarly the patient must give up taking any drugs, such as opiates or other sedatives. Where the patient is fat from ovarian inactivity and especially when the periods are scanty or absent I generally prescribe permanganate of potash in compressed tablets, one or two grains immediately after food three times a day. Of course, the adiposity here is physiological in a sense and if the ovaries can be got to resume active function the patient will soon get thinner. Especially if she begins to have babies will she get thinner.

It is a curious thing that not only do the poor and hard-working have more children than the rich and leisured classes but also they have a much larger proportion of male infants. In the Hunterian Oration which I gave in 1898 I showed that amongst the poor classes round about Guy's Hospital the proportion was 100 males to 89 females whilst amongst the descendants of the Queen the proportion was 100 females to 80 males. It is a well-known fact that excess

of female births indicates weakness of productive energy. Professor Schenk of Vienna obtained some notoriety a few years ago by suggesting the possibility of controlling the sex by means of a particular diet. What we know of animal life, especially amongst bees, all seems to point to this, that in order to have male children the reproductive activity should be good and that therefore the diet should be spare. But however much a woman might starve herself she could not always succeed in having a male infant. Frequently I find a complete change of food is successful and by that I mean change of cooking as well. For instance, you send your patient back to her old home, or on a visit to a relative or friend, or to some holiday resort in England or abroad where she obtains quite a different kind of diet, cooked differently and served differently, and she becomes fertile although perhaps you have been trying other means in vain.

3. *Tonics.*—If a woman is in bad general health you would try to improve that as far as possible by giving suitable tonics. Poor women who are thin and prolific are strong as a rule. But a woman might be thin and weak from some cause of ill-health. It is curious, however, that in some cases of even profound ill-health a woman will breed easily. For example, in pulmonary phthisis you often find great reproductive activity right up to the end of the patient's life. I have myself delivered more than one woman in the last stages of phthisis and you will find as a rule in such cases that the child is plump and fat.

4. *Change of environment or climate.*—One of the best methods of treating sterility where there is no apparent bar to conception is a change of environment. Possibly the good results are obtained by a complete alteration in diet as has been already referred to. But that is not all. There is a great deal in the climate. Speaking broadly one may say that as a rule it is best to send the patient to a warmer climate. The influence of heat and cold upon fertility is very considerable. The beneficial effects upon ovarian activity of a hot climate such as India and South Africa and similar places are well known. Malta, Madeira, the south of France, and Italy all act in a similar though to a less degree and where patients are unable to go abroad I generally recommend the coast of Cornwall or Devonshire. Falmouth and Torquay are distinctly warmer than most parts of England. I have known cases where pregnancy has resulted from a change of residence to a colder climate, but perhaps the result was not due to that altogether, though no doubt some natures would be more fruitful in a temperate than in a hot climate. At all events we know that plants put in hot-houses will frequently bloom and fructify, whilst exposed to the ordinary atmosphere they are barely alive and quite or nearly barren. Also menstruation is nearly always improved, sometimes too much so, by living in a hotter climate. Many ladies return yearly from India suffering from menorrhagia. Moreover, hot climates develop to a large extent the sexual instincts, and although, as I have pointed out, these are not essential to fertility still they are helpful. It is often useful to send patients to hydropathic establishments or to some of the spas here or abroad. Personally, I frequently recommend country life—some quiet village as far as possible from a town—that is, when the patient already lives in a town. Also, after other methods have failed I sometimes get a patient to remove from one part to another in the place where she lives; for example, from the north to the south of London. Especially if I find, as is sometimes the case, that a patient is habitually constipated when living in a certain part and not so when visiting friends in other places. Probably in most of these cases it is the water-supply that causes the constipation. But whatever it is you eliminate it by a change of residence.

5. *Specifics.*—Where the husband has had syphilis and the wife has had one or more miscarriages, thought to be due to inherited paternal syphilis in the developing ova, we should put the woman on a course of mercury or iodide of potassium. I think the former is the best, at first at all events, and I generally give it before she becomes pregnant again, and of course should she conceive then give it all through the gestation. In this way you will frequently succeed. Where there is no history of syphilis in the husband, but where there is no other discoverable cause of repeated miscarriages, I also recommend specific treatment.

6. *Local treatment.*—This would depend, of course, upon what was found on examination. You would cure any excoriations, caruncles, pruritus, or eczema. Repair any bad rupture of the perineum. Remove hypertrophied nymphæ if they are so long as to be in the way. Remove any tumours of the vulva. The hymen may be too thick or extremely sensitive and it may be necessary to incise it, or to cut pieces away, or to burn the sensitive patches. Cure any vaginitis that is present and be careful to pay special attention to the urethral and cervical canals, because it is from neglect of these that so many cases are only partially cured, the patient finding when she omits using the lotion you have prescribed that she gradually gets the yellow discharge back again. I generally prescribe lotio nigra for the vaginal douching and myself apply to the urethral and cervical canals a solution of nitrate of silver, ten grains to the ounce, by means of a Playfair's probe. This should be done at least every other day until the patient is cured. If after apparent cure the discharge returns it will be necessary to repeat the treatment and to do it more thoroughly. Any bands or rings or cicatrices on the vagina must be cut through in a suitable way. In vaginismus Sims's dilators or bougies may be used, also cocaine pessaries. Where the vagina is too short or too small in its capacity and whenever there is relative disproportion you should advise incomplete penetration. Where the vaginal secretions are morbid—for example, too acrid—remedy them by suitable reagents.

Where the semen comes out post coitum you can let the patient wear a polished vulcanite pessary and advise incomplete penetration so as to avoid the elastic recoil. In these cases I never recommend rubber instruments. An ordinary Hodge's pessary may do but I prefer a small Galabin's anteversion pessary which prevents the walls of the vagina from coming together and at the same time does not interfere with married life. Discharges of various kinds—red, yellow, green, white, or watery—must be treated according to their respective causes. In deep lacerations of the cervix trachelorrhaphy is beneficial as it prevents miscarriages when the cervical canal is properly closed. When the cervix uteri is too long or is thickened by hypertrophy of split portions you can remove pieces of it. Also the cervix uteri may be dilated or split, especially in those cases where there is a conical cervix or a small os uteri. I generally perform a modification of Sims's operation by cutting through the circular fibres twice. This prevents reunion and subsequent closure by the retraction of the cut fibres. Of course, one does this operation chiefly for dysmenorrhœa, but it is sometimes successful in curing the sterility, although not nearly so often as in relieving the dysmenorrhœa.

In cases of chronic endocervicitis you may have to scrape the mucous membrane with a sharp spoon or to apply a strong caustic. You would remove any polypi or other tumours from the cervix and treat any erosions that might be present. In some instances I have found that the mere passing of a sound for the purpose of discovering the length, &c., of the uterus has been followed by successful impregnation as if the sound had removed some obstacle or other. You can pass the sound or you may dilate with Hegar's dilators or some other form of dilator. I prefer Hegar's because they have a definite meaning. Each number refers to the diameter in millimetres. You can often dilate up to a No. 9 without an anæsthetic but it is better in many cases to give an anæsthetic and to dilate up to a No. 12 or 14—certainly if your object is to relieve dysmenorrhœa as well as to try to cure the sterility. When there is endometritis you may curette with advantage. Avoid a sharp curette or you may damage the nest. Apply tincture of iodine or liniment of iodine, or phenol, or iodised phenol, by means of a Playfair's probe, according to the strength of caustic required and this depends as a rule on the chronicity of the case; the longer it has existed the stronger the caustic required. Curetting is also useful when the menses are foul or clotted or profuse, or a bad colour, or like coffee grounds. Some advise the wearing of an intra-uterine stem pessary, but this has practically fallen into disuse. The use of electricity is at present rather empirical. You might pass a current through with the negative pole in the uterus at one time and if this failed with the positive pole in the uterus at another; but I have known ladies spend much money on quack specialists who buoyed them up with hopes resting on an imaginary mysterious influence which the application of electricity would bring to bear. Remove any polypi or other tumours when possible. Remedy any displacements by suitable appliances or by operation.

With regard to the Fallopian tubes they are difficult to treat as they are quite out of one's reach except by operation. Where a double salpingitis has supervened on a

gonorrhœa one can only attend to the general health and cure the gonorrhœa so far as it is accessible in the vulva, urethra, vagina, and uterus, and so hope that perhaps the tubes will in the end become so far better as to contain only a sterile fluid which will permit an ovum to pass along intact. Beyond this it is a question whether it would be possible to treat the tubes by abdominal section—that is, opening the abdomen and, as far as possible, separating any adhesions about the fimbriæ and perhaps passing a small probe along the canals of the tubes and applying some caustic. Considering the risk to life of this procedure and the impossibility of promising success in regard to the cure of the sterility I should never recommend it myself. But I have done this—namely, when it has been necessary to perform an abdominal section for some condition such as an ovarian tumour, finding the tube of the opposite side matted down or kinked I have separated the adhesions and placed the fimbriæ in as normal a position as possible, at the same time unravelling the tube and freeing it from any kinking.

Where ovaritis is diagnosed this must be treated by counter irritation such as blisters and tincture of iodine and giving hot water vaginal douches and whilst these are being given let the patient have physiological rest. Bromides may be given. Amenorrhœa due to various causes must be treated. When due to ovarian sluggishness you can treat it in the way already mentioned. Very often amenorrhœa is due to what the late Sir Andrew Clark called "fæcal anæmia" and it is best cured, as is also chlorosis with scanty or absent periods, by means of some easily assimilated preparation of iron such as pilula ferri, ferri carbonas saccharata (in powder), mistura ferri composita, and some saline purge such as the white magnesia mixture. As the producers of the ova the ovaries are the most important sexual organs in a woman and hence everything that can be done to improve their function should be tried. I can only hint at this by again referring to food, climate, permanganate of potash, &c. Where an ovary or both ovaries are bound down by inflammatory adhesions one must try to get absorption of the lymph by means of hot douches and absorbents such as mercury. I have no experience of massage in such cases and I think it would probably do more harm than good. The question of abdominal section with the idea of separating and freeing the bound-down ovaries I should be inclined to discuss in the same way as in regard to the tubes—namely, that if the abdomen had to be opened for some other reason one might at the time of the operation look at the ovaries and, if practicable, free them from the adhesions. Pelvic inflammations and hæmatocele must be treated by rest, real and physiological, hot vaginal douches, hot external applications such as poultices and hot flannels, and absorbents such as unguentum hydrargyri perchloridi and potassii iodidum internally and a little unguentum hydrargyri oleatis rubbed into the skin above the groins externally.

7. *Regulation of coitus.*—If possible remove any source of pain. Advise as to any excess. Suggest a day or two before the aura as the best time. In some cases advise complete abstinence for a period of time varying in different cases according to circumstances from a week to a month or more. Certainly it ought not to take place at all when you are treating the wife for gonorrhœa or anything which requires vaginal syringing, inflammations and the like. But the idea of abstinence is rather that of increasing the power of reproductivity. The male element may be improved by it. And possibly if the husband waited until there was desire on the part of his wife the chances of success might be greater. Find out if coitus is performed properly and advise accordingly.

8. *Natural habits.*—Find out if the patient is using a vaginal douche for any reason whatever. If there is a good reason—as, for example, in vaginitis—cure the condition if possible and then let her leave off all syringing so that the parts may get into a natural healthy condition.

Should all measures fail then you must turn your attention to the husband as the possible cause of the sterility. But I have not time to deal with sterility from that source. Artificial insemination is a wide subject with which I cannot deal here. But if you succeed in removing the barriers to conception and your patient becomes pregnant and goes to term and is delivered of a living child you will be amply rewarded by seeing the happiness in the mother's eyes as she fondles that little bit of humanity that is her very own.

A Clinical Lecture

ON

SEVEN CASES OF CÆSAREAN SECTION.

Delivered in the Leeds General Infirmary on Nov. 27th, 1903,

BY J. B. HELLIER, M.D. LOND., M.R.C.S. ENG.,

OBSTETRIC PHYSICIAN TO THE INFIRMARY AND LECTURER ON THE DISEASES OF WOMEN AND CHILDREN IN THE YORKSHIRE COLLEGE, LEEDS.

GENTLEMEN,—In July last a married woman with a contracted pelvis came to this hospital to ask for attendance in confinement in the out-patient maternity charity. She said that she had had three previous labours. The first was certainly a craniotomy; in the second the neck was dislocated in attempts to deliver; and the third also had proved fatal to the child and she was very anxious to have a living infant. Her age was 28 years; her stature was 55½ inches. She had a small flat pelvis with a true conjugate of about two and a half inches or a little less—say six centimetres. She was in good health and labour was expected about the second week in September. It was explained to her that if she would come into the hospital on Sept. 1st and undergo the operation of Cæsarean section in all probability her child would live and she would recover. Having understood the nature of the operation and having consulted her husband she consented and was admitted on Sept. 2nd. She was prepared for abdominal section in the usual way and no one was allowed to make a vaginal examination. Without waiting for labour to begin the operation was put down for performance in the general theatre on my usual Saturday morning list. She was anæsthetised with ether by Mr. D. Seaton. Our aseptic technique now includes the wearing of sterilised rubber gloves by all persons concerned, including dressers and nurses. To incise the abdomen and uterus and to deliver a living child occupied two and a quarter minutes. The uterus was then drawn forwards through the abdominal wound and all bleeding was controlled by an elastic cord while the placenta and membranes were removed and the uterus was very carefully stitched up. The uterus contracted and retracted well and after the elastic cord had been removed and the uterus returned there was no further hæmorrhage. The patient bore the operation exceedingly well and on the next day looked better than the average primipara on the morning after labour. The temperature reached 100° F. on the second night and then became normal. There were no complications and the wound healed by first intention. The child was put to the breast at intervals on and after the second day, a plentiful secretion of milk began on the third day, and on the twenty-second day the mother and child were discharged in excellent health. The child weighed 6 pounds 14 ounces at birth and 8 pounds 2 ounces on discharge. Thus the hopes which had been held out to the patient last July were fully justified.

Cases in which Cæsarean section is contemplated may be divided into those where operative conditions are perfectly satisfactory and under control and those where they are more or less unsatisfactory. The case just mentioned is an example of the former. It is a good example of modern Cæsarean section, an operation neither difficult nor very dangerous. We can not only perform it with confidence in those cases of extreme pelvic contraction where the indications for it are "absolute" but we can offer it to our patients as a fairly safe alternative to the termination of pregnancy by the destruction of the unborn child. To the mother such a proceeding is most miserable and depressing, especially when repeated again and again. To the obstetric surgeon it is essentially repugnant in its nature and ghastly in its details. It is, moreover, in all high degrees of pelvic contraction attended with very appreciable risk.

To you, gentlemen, the operation may seem to be so simple and straightforward that you may fail to realise how new a thing it is in the history of obstetrics that any degree of safety should be ascribed to the operation of Cæsarean section. When I was a student Dr. Robert Barnes described it as "occupying a doubtful place between conservative and sacrificial midwifery" and as being "resorted to with a feeling akin to despair for the fate of the mother which was

scarcely tempered by the hope of saving the child." It will not be a waste of time if we take a brief glance at the past history of our subject.

Cæsarean section is the oldest of all abdominal sections, the oldest by many centuries. Most modern abdominal sections are the result of the safety of aseptic surgery, but Cæsarean section and later ovariotomy were formerly undertaken in ignorance of the most essential conditions of success. In fact, the development of modern abdominal surgery springs largely from experience gained in the performance of ovariotomy and the application thereto of aseptic principles. In early times Cæsarean section was performed simply to save the child. It may be that the house of the Cæsars derived its name from one born, as Pliny tells us, by *incision* of his mother's womb—*a cæso matris utero*[1]—just as Macduff is said to have been

> "From his mother's womb
> Untimely ripped."[2]

But this was not surgery and our interest begins with the day when the mother's life was put first. The first time the mother's life was saved is said to have been in the year 1500 A.D. and the account of this operation may be new to most of you. I take it from Herrgott's French translation of Siebold's "History of Obstetrics."[3] If it is true it is the story of a very brave deed. In the year 1500 Elizabeth Alespach, wife of Jacques Nufer, a pig-dealer in the village of Siegerhausen in Thurgovie (near the Lake of Constance in Switzerland), being pregnant with her first child and having felt labour pains for several days summoned 13 midwives in succession to her assistance as well as some *lithotomists*. They made many attempts to deliver her but all were futile. As her sufferings were acute and as she had abandoned all hope of relief her husband told her that if she could trust him he would undertake an operation which, by God's grace, might succeed. His wife answered that she would endure anything to get relief. As the matter was a delicate one the husband went to the Mayor of Frauenfelden, the capital of the canton, to ask permission to undertake the operation. The mayor made some difficulty at first but being satisfied as to the condition of the woman and the good faith of the husband he gave consent. The man returned home and told the midwives that those who had sufficient courage to assist him might remain in the room but those who were afraid had better go out as he was about to undertake something by which he hoped, with God's help, to save his wife. 11 of the midwives grasped and admired his purpose but retired. Two, more courageous, remained with the lithotomists to render help. After having prayed for Divine assistance and carefully fastened the door he laid his wife upon a table and made an abdominal incision as he would have done with a pig (the man being no doubt accustomed to spaying sows). At the first cut he opened the abdomen so successfully that the child was extracted uninjured. The midwives outside the door heard the child cry and asked to come in but in vain, for they were not admitted till the child had been washed and the wound had been closed after the manner of veterinary surgeons. The wound healed well and the woman recovered without any bad symptoms. As she subsequently bore six more children, two being twins, there cannot have been any serious degree of pelvic contraction. The child rescued by the operation died at the age of 77 years, leaving wife, children, and grandchildren. This story has the appearance of truth. Siebold thinks that some doubt is thrown on the question of this being a case of Cæsarean section by the fact that there is no mention of any incision in the womb in addition to the abdominal incision, and as she bore children naturally afterwards it is suggested that this was really an extra-uterine fœtus. There seems to me to be no weight in the first objection; a bold incision would be more likely than not to open the uterus simultaneously with the abdomen as anyone who has experience in the operation will realise. It is not difficult to imagine that a woman might be in bad pain for some days and that she and the midwives might be alarmed and in despair in the presence of some condition not incompatible with subsequent normal labours. Version was but little known in Europe till the time of Ambroise Paré, and midwives and "lithotomists" and barbers might easily be at the end of their limited resources. The question of the fate of the placenta in abdominal pregnancy is a very serious matter and the facts that the wound healed by first intention and that the woman recovered without a bad symptom and that the child was the reverse of puny and short-lived are considerations which incline me to accept the case as one of Cæsarean section. So much for Nufer.

This was 400 years ago and during the greater part of these four centuries attempts to practise the operation have resulted in a most appalling mortality, so that even during the greater part of the nineteenth century accoucheurs were largely occupied in inventing osteotomists, cephalotribes, cranioclasts, basylists, basiotribes, and other instruments for destroying the child in order to supersede as far as possible the performance of hysterotomy. If you will take from the library shelves a treatise on obstetric medicine published in 1836 by Dr. Davis in two most beautifully illustrated quarto volumes, you will find a figure of an "osteotomist" which he invented and which he thought would "have the effect of reducing almost to zero the necessity of having recourse to that last extremity of our art and the forlorn hope of the unhappy patient, the Cæsarean operation." Ramsbotham in 1841 gives the statistics for the British Isles as 30 cases with 27 deaths. I notice that he says that sutures are not needed for the uterine wound but that two or perhaps three will be required for the abdominal incision.[4]

I have already quoted Dr. Barnes's despairing utterance in 1871 and this was a time when ovariotomy was a well-established operation. The British mortality from Cæsarean section was at this period 84 per cent.[5] In a very valuable French treatise on obstetrics Budin tells us that in 1876 there had been no successful case in Paris since 1787.[6] It was from 1876 that we may date the beginning of better things. The method of removing myomatous uteri by supravaginal hysterectomy with an extraperitoneal pedicle secured by a serre-nœud and fixed in the abdominal wound had been successfully practised by Péan of Paris and by Koeberlé of Strasburg. Professor Porro of Pavia realised that such a treatment of the puerperal uterus after Cæsarean section would save the patient from some of the chief dangers of the operation as hitherto performed, and he introduced the operation known as Porro's operation which is described in every text-book of midwifery. The better results of this operation became obvious at once and the mortality continued to fall as aseptic principles were developed and applied to it. Eight years later Dr. C. Godson[7] collected the statistics of Porro's operation up to date and found that the mortality was 56·57 per cent. That is, about half the cases were being saved. It seemed likely that Porro's method would oust the old operation completely, but in 1882 Saenger of Leipsic designed the modern operation known as conservative Cæsarean section or Saenger's operation. He succeeded in convincing the profession that the principle of sacrificing the womb is wrong and his operation is in principle, if not in all its original details, now regarded as the best method of delivery by abdominal hysterotomy. The mortality of Saenger's operation to-day in 355 cases by the most experienced operators is under 7 per cent., while in cases not infected by previous manipulation it is 4 per cent. Zweifel has had 76 cases with but one death. These figures are quoted from one of the latest and one of the best works on obstetrics, Professor Whitridge Williams's recent text-book. Saenger died in January, 1903, at the early age of 50 years, and the loss of this gifted, original, and many-sided man is much to be lamented. In 1898 Leopold of Dresden had completed 100 cases with a mortality of 9·8 per cent. for the conservative operation and 10·3 per cent. for Porro's operation.[8] He is said to have performed more Cæsarean operations than any other man. The longest series of such cases will always, we expect, come from abroad. Contracted pelvis occurs in many parts of the continent with a frequency which is unknown in England. The Germans call rickets *die Englische Krankheit*. They see plenty of it themselves. We certainly may describe osteomalacia as

[1] Pliny, Natural History.
[2] Macbeth Act v., Scene 8.
[3] Essai d'une Histoire de l'Obstétrice, Siebold. Traduit avec additions, figures, et un appendix par F. J. Herrgott, Paris, 1893. Tome ii., p. 96.
[4] F. H. Ramsbotham: Principles and Practice of Obstetric Medicine and Surgery, London, 1841.
[5] Galabin: Midwifery, p. 697.
[6] Traité de l'Art des Accouchements, Tarnier, Chantreuil, et Budin, vol. iv., 1901.
[7] Brit. Med. Jour., 1885, vol. i., p. 120.
[8] Archiv für Gynäkologie, Band lvi., Heft 1

a continental disease. There it is endemic and frequent, here it is sporadic and rare.

In the modern conservative operation success depends upon three things—viz.: 1. The most rigid asepsis. No operation owes more to aseptic surgery than this. I do not know whether Lord Lister ever performed a Cæsarean section, nor do I know how long it may be since he attended a confinement; but every successful case of Cæsarean operation owes her recovery largely to him, and every woman now attended in labour by a civilised practitioner has a debt to Lister. 2. Efficient suture of the uterine incision so as to prevent any leakage of lochial fluid into the peritoneal cavity. 3. Early operation. This means the performance of operation not as a last resource when other means have failed and when the patient is exhausted by protracted labour and the parts are infected by prolonged digital and other manipulations, but at the earliest suitable time when the strength of the patient is at the maximum and the parts are untouched.

The ideal conditions for operation are most perfectly realised when the pelvic contraction which necessitates the operation has been diagnosed beforehand, so that no vaginal operation needs to be made at the time. A day and hour can then be fixed, all requisite preparations can be completed, and the hysterotomy can be performed without waiting for labour to begin. It is a most interesting physiological fact that if the pregnant womb be thus incised and evacuated retraction and spontaneous arrest of hæmorrhage will take place as in an ordinary labour. The principle is not really new. It has been known for a long time that rapid delivery by *accouchement forcé* does not necessarily involve post partum hæmorrhage. Recent experience with Bossi's dilator has shown that retraction will follow evacuation of the womb by this process also. For example, in a recent case of eclampsia before labour had set in I dilated the cervix with Bossi's dilator and delivered the child with forceps within 45 minutes. The placenta came away soon after and there was no post-partum hæmorrhage. Ideal conditions for the operation cannot always be secured. This is obvious. The pelvic contraction may not be discovered till labour has commenced. Our cases here are often admitted in labour and may have been brought from some distance, but the earlier the operation the better the result. Cases unsatisfactory for this operation are such as have been subjected to fruitless attempts to deliver per vias naturales by forceps or turning; cases where the membranes have been long ruptured and repeated vaginal examinations have been made, where the pulse has become rapid, the temperature raised, the uterus tonically contracted, and the patient exhausted. In such cases if the indications are "relative" the best plan usually is to deliver by embryotomy and to perform Cæsarean section if a subsequent pregnancy should occur. If the indications are "absolute" then hysterotomy followed by hysterectomy is the best plan.

The objections to Porro's operation are that it is in most cases a needless mutilation and a greater shock. The fixing of the pedicle in the wound is an unsurgical procedure. It necroses, becomes more or less septic, and when it separates a large cavity is left to granulate and a weak place is left in the abdominal wall where ventral hernia is very apt to develop. If it is thought that hysterectomy is indicated it is better to carry out the operation of supravaginal amputation of the uterus with retroperitoneal pedicle. This is said to be an easy operation under these conditions of large abdominal incision and lax pelvic tissues and not to occupy more time than an ordinary Porro's operation.[9]

Since my appointment to this hospital four years ago I have performed conservative Cæsarean section seven times with six consecutive recoveries.[10] For the general details of the operation I refer you to your text-books. I propose here to say a few words about certain points which have struck me and certain questions which arise in connexion with the subject. I give first a list of my cases.

CASE 1.—The patient had been married nine years and had had five dead children. She had a flat pelvis with a conjugata vera of two and three-quarter inches. Cæsarean section was performed on May 20th, 1900 labour having commenced. Hæmorrhage was controlled manually. Salpingectomy was performed. The child lived but the mother died on the seventh day from broncho-pneumonia and suppuration in the uterine incision (see note on this case).

CASE 2.—The patient was married and a primipara, her age being 24 years. Her height was 4 feet 6 inches. The conjugata vera was two and a half inches. She was admitted in labour. Cæsarean section was performed on Nov. 21st, 1900. Hæmorrhage was controlled manually. Salpingectomy was also performed. The child lived. The wound healed by first intention and the mother made a good recovery.

CASE 3.—The patient was a primipara, married, and aged 25 years. She was the subject of rickets. Her height was 4 feet 7 inches and she had a conjugata vera of two and three-quarter inches. She was admitted in labour on Sept. 6th, 1901. The funis was prolapsing. Cæsarean section and salpingectomy were performed. An elastic tourniquet was used. The mother recovered without complication. The child was stillborn, having been killed by pressure on the cord.

CASE 4.—The patient was single and aged 33 years. She was a rachitic dwarf, her height being 3 feet 1 inch. Her limbs and pelvis were much deformed. The conjugata vera was two inches. She was admitted in labour. Cæsarean section was performed on August 27th, 1902. Some ascitic fluid was present in the peritoneal cavity. Hæmorrhage was controlled manually. Salpingectomy was also performed. The child lived and the mother recovered without complication.

CASE 5.—The patient was married, a primipara, and aged 28 years. Her height was 4 feet 3 inches. She had a badly-contracted rickety pelvis. The conjugata vera was one and three quarter inches. She was admitted in labour. Cæsarean section was performed on Jan. 1st, 1903, the presentation being transverse. The cord was prolapsing. A little ascites was present. Hæmorrhage was controlled by elastic tourniquet. Salpingectomy was afterwards performed. The child was stillborn. The mother recovered without any complication.

CASE 6.—The patient was a primipara, single, aged 27 years. She was a rickety subject. Her height was 3 feet 8½ inches. The conjugata vera was two inches. She was admitted in labour. Cæsarean section was performed on June 21st, 1903. A little ascites was present. Salpingectomy was also carried out. The mother and child recovered. The child's head was deeply dented at the parietal bone by the sacral promontory on the attempt of the head to enter the pelvis. The head was normal in a few hours after birth. Some suppuration in the uterine wound took place, which was treated by draining (see note below). The mother recovered perfectly.

CASE 7.—The patient was aged 28 years. She had had three previous stillborn children. The conjugata vera was two and a half inches. Cæsarean section was performed on Sept. 5th, 1903, before labour had commenced. Hæmorrhage was controlled by elastic tourniquet. The mother and child recovered without complication. The mother suckled the child.

Abdominal incision.—In all my cases the abdominal wall has proved to be exceedingly thin. It has consisted in the middle line of skin and fasciæ aponeurosis, and peritoneum, no fat and no muscle. The first stroke of the knife may easily open the abdominal cavity and nick the uterus; the abdominal incision should not come too low down. Its centre may lie at the navel; this enables you to make the uterine incision sufficiently high, also it avoids the bladder. All who do abdominal surgery must bear in mind the possibility of a high bladder. In cases of myoma uteri and in pregnancy and other conditions the reflexion of the peritoneum from the abdominal wall to the bladder may be seated as high as the mid-point between the navel and the pubes. Hence, if an incision extend too near the pubes the bladder might be opened instead of the peritoneum. I have seen this only just avoided by experienced surgeons. Open the peritoneum first at the upper end of an abdominal incision. The point is mentioned in some text-books but needs emphasising.

Ascitic fluid.—In Cases 4, 5, and 6 a little free ascitic fluid was found in the peritoneal cavity. No special importance needs to be attached to this and perhaps it may be not uncommon in pregnancy.

The uterine incision.—This must not be too short otherwise it will tear during the extraction of the child and it will probably tear downwards where the wall is thinnest. The incision, which should be six inches long, should be well above the retraction ring. Suturing is more efficiently carried out in the thicker wall of the fundus. Probably also a wound here is somewhat more secure from stitch abscess

[9] W. Williams, loc. cit.

[10] Details of Cases 2, 3, 4 and 5 have been published in the Brit. Med. Jour., Jan. 6th and Nov. 2nd, 1901, and Jan. 3rd and March 14th, 1902.

than one in the thinner wall of the lower segment near the vagina. The incision is easily made. Cut an aperture with a scalpel to admit the index finger and then use a large pair of scissors with finger as director. Never mind the placenta If you come upon the centre cut boldly through it or if upon the edge push it aside.

Control of hæmorrhage.—Hæmorrhage seems to give surprisingly little trouble in this operation. As soon as the child is born your assistant presses the cut edges of the uterus together and draws the fundus forwards out of the abdomen. The abdominal cavity is then carefully packed off with large sterile swabs. By compressing the broad ligaments the hæmorrhage can be controlled manually or an elastic cord can be placed round the cervix. This sets your assistant's hands at liberty to help you. Some operators use the cord regularly; some avoid it for fear of causing uterine inertia. I do not think the risk of this is great. When the sutures are tied the bleeding from the uterine incision ceases. If you are using the tourniquet you take this off when the last silk stitch is tied. If there is bleeding at any point of the wound you may decide to pass another suture there. I have always followed the book, passing deep silk sutures through all the wall except the mucosa with intermediate stitches half-way through. Finally, a continuous catgut suture, passed Lembert-wise, is carried down the wound, closing the peritoneum over the other sutures and burying them out of sight.

How to secure uterine contraction.—Before returning the uterus into the abdomen you may squeeze it between your hands to empty it of blood and to make it contract. If at this point you pour hot water at from 110° to 115° F. over the peritoneal surface of the womb it will contract promptly and firmly. Hot intra-uterine injection has long been used for post-partum hæmorrhage, but it is very pretty to see from the outside the effect of hot water on uterine contraction and retraction. I would advise anyone to try this who may have difficulty with uterine inertia at this stage.

The question of sterilisation.—Porro's operation made subsequent utero-gestation impossible. In the conservative operation sterility can be almost certainly secured by excising a considerable segment from each oviduct. This I have done in six of the seven cases here mentioned. It is quickly done and adds practically nothing to the risk of the operation. To-day some practitioners question the propriety of this step, saying that it is no part of the duty of the profession to carry out such preventive measures, even if the woman and her husband request it. It seems to me that if a woman be so deformed that it is impossible for her to be delivered of a living child except by abdominal section, so deformed, that is to say, that parturition cannot take place physiologically, then the operator does right to take steps to protect the woman against further pregnancy and parturition if this is the wish of the parties concerned.

The closure of the abdominal wound and the after-treatment follow the lines of ordinary abdominal section.

Lactation after Cæsarean section.—In the last case the mother was allowed to suckle her own child with the best results. I shall adopt this plan in future when the mammæ are secreting well and the mother's condition is satisfactory It is best for her and best for the child.

Suppuration in the uterine wound.—We all know that from time to time one sees a stitch abscess or a limited area of suppuration in the wound after abdominal section. This is not usually a very serious matter. It sends the temperature up on the fourth or fifth day and when the pus is let out things become normal again. The perfecting of aseptic precautions has greatly diminished the frequency of such an occurrence, but I know no one in whose practice it *never* happens. Now a stitch abscess may occur in the uterine wound, where it is a more serious matter, for it may lead to suppurative peritonitis. You can guard against this by having (1) aseptic hands, (2) aseptic instruments, and (3) aseptic sutures. But there is a fourth requisite, an aseptic uterine cavity. This is the great reason why those cases do best when there has been least vaginal examination. Yet the fact that we have not touched the patient does not necessarily secure the absence of infection. For example, I may remind you that children are sometimes infected in the genital canal by maternal secretions and so develop ophthalmia neonatorum. Supposing that for any reason a uterine stitch abscess should occur it would cause a rise of temperature about the same time as a similar condition in the abdominal wound. It does not follow that the local signs would be very pronounced, especially at first. There might be little pain or distension and no great tenderness. But if you had any reason to be uneasy about your patient you ought to take out the lowest stitch in the abdominal wound and to insert a small drainage-tube into the utero-vesical pouch. You shall hear how this lesson was learned. The patient in Case 1 died on the seventh day. After operation she had broncho-pneumonia which was ascribed to ether. On the second day onwards there was some rise of temperature. The abdominal signs were trivial or almost *nil*. The constitutional symptoms seemed to be fully accounted for by the obvious lung conditions. On the seventh day she grew worse and died somewhat suddenly. At the post-mortem examination there was purulent peritonitis which seemed to have started from the lowest uterine stitch or stitches. There was a considerable local collection of pus. I determined that if ever a case gave me similar anxiety I would explore and drain. In Case 6 this lesson was put to use. On the second day there was some rise of temperature for which I could not account. The abdominal signs were almost *nil*. No distension was present but just a little tenderness above the pubes. The lowest abdominal stitch was taken out and a small drainage-tube was put in the utero-vesical pouch. No discharge escaped at the time. Next day there was a discharge of pus, the temperature fell, and though the sinus continued to discharge for some time the woman made a good recovery. Probably Case 1 might have been saved in the same way.

Absolute and relative indication.—The limit of absolute indication should not be less than 2·5 inches, or six centimetres. In 1871 Dr. Barnes put it at 1 5 inches. In Vienna to-day it is 6·5 centimetres; in Germany 5 5 to 6 centimetres. The tendency is to extend it to seven centimetres.[11] As to symphysiotomy, it is being discarded in favour of Cæsarean section and you are not likely to see it performed here. In cases where the indications are "relative" Cæsarean section will certainly be performed more frequently in this country than in the past as an alternative to craniotomy as the safety of the operation when performed under favourable conditions becomes generally recognised. The country practitioner called to the primipara in some one-roomed cottage on the hill-side far away from any other practitioner's help may be still obliged to destroy the child. But such a case in the event of a second pregnancy may be sent to a hospital for treatment when term approaches. And the number of hospitals, larger or smaller, where thoroughly aseptic surgery can be carried out is constantly increasing and there are comparatively few who are beyond reach of such. The days when embryotomy was expected to supersede Cæsarean section are over. To-day this expectation is reversed.

Here then, gentlemen, is an operation which at one time seemed almost hopelessly fatal and which a quarter of a century ago had a mortality in Great Britain of four cases in five. To-day it is undertaken, not with despair, but with confidence. The mortality has been reduced to one twelfth of what it was then. Given early operation and favourable conditions the mother and child will probably be saved. This is a great triumph and we who record successes to-day may well bear in mind how large a proportion of the credit belongs to those who have gone before us. We walk in a plain path which they have made easy for us by their patient investigation, their scientific enterprise, and, we may add, by their honest records of their failures.

KELLY'S METHOD OF CYSTOSCOPY IN THE FEMALE.[1]

BY THOMAS WILSON, M.D. LOND., F.R.C.S. ENG.,

OBSTETRIC OFFICER TO THE GENERAL HOSPITAL, BIRMINGHAM; HONORARY SURGEON TO THE LYING-IN CHARITY, ETC.

AMONG the women who apply for treatment for affections of the organs peculiar to their sex are many who complain of symptoms arising from the urinary tract. In many of these cases the symptoms are due to some condition that primarily or chiefly affects the urinary organs, while in a

[11] Encyclopädie der Geburtshülfe und Gynäkologie, Saenger und von Herff. Art. Kaiserschnitt.

[1] A paper read before the Midland Medical Society on Dec. 2nd, 1903.

very much larger number they arise from a disturbance of function set up by some affection of the neighbouring uterus or its appendages. The recognition of some disease of the latter organs and the prompt subsidence of urinary symptoms when this disease is treated often appear to prove the dependence of one upon the other. Not uncommonly, however, it happens that some organic affection of the bladder, urethra, or other part of the urinary tract co-exists with some affection of the generative organs, such as a retroversion of the uterus or an inflammation of the ovary or Fallopian tube. In such cases the measures which relieve the symptoms due to one affection may entirely fail to relieve those due to the other. Take, for example, a nulliparous married woman, aged 32 years, who was first seen in an acute attack of pelvic peritonitis; a month later there was left salpingo-ovaritis with retro-position and anteflexion of the uterus. Nine months later, on Oct. 13th, 1898, urinary symptoms, especially frequency of micturition, persisted, although the condition of the ovary and tube appeared to have recovered. Cystoscopic examination disclosed on the posterior part of the floor and on the posterior wall of the bladder small areas of dark redness, from the size of a pin's head to that of half a split pea, with areolæ of a brighter red gradually shading off into the normal mucous membrane.[2]

The methods by which we endeavour to decide whether the functions of the bladder are disturbed by some disease that may be present in the neighbouring organs or tissues, or whether these symptoms really depend on some affection of the urinary tract itself, include in the first place examination of the urine, to ascertain whether this secretion is normal or presents any of the well-known changes set up by disease, such, for instance, as alkaline reaction or the presence of mucus, pus, or blood. Palpation of the lower abdomen, inspection of the meatus of the urethra, palpation of the urethra, and bimanual examination of the bladder may in some cases throw light on the causation of any urinary symptoms that may be present. The use of the sound enables us to detect certain gross conditions within the urethra or bladder, such as the presence of a stone or foreign body or occasionally of a firm tumour.

In doubtful cases where the symptoms are severe Simon's method of dilatation of the urethra and examination of it and of the interior of the bladder by the finger may enable us to determine alterations in the walls or contents of the bladder. It may still, however, happen that small ulcers or even soft papillary outgrowths may be present in the bladder and that they may be unrecognisable by any of the methods of treatment hitherto mentioned and in such cases it is only possible to make the diagnosis by means which will enable us to make a visual inspection of the interior of the bladder. There are two methods of making this inspection. The first depends upon the injection of water into the bladder and the employment of Nitze's electric cystoscope or some of its modifications. The second more direct method depends upon the passive distension of the bladder with air and was placed upon a firm basis by Howard Kelly who gave a full description of his method in the *American Journal of Obstetrics* for January, 1894. Since October, 1898, I have used the latter method on nearly 250 occasions and have satisfied myself that it is a scientific method of great practical value. It depends for its success upon the important fact that when the pelvis is raised above the level of the rest of the trunk the intestines gravitate towards the diaphragm and then if the urethra is opened air rushes into the bladder and distends it. The influence of Sims's position, and still more of the knee-elbow position, in causing negative pressure in the vagina was long recognised and an occasional ballooning of the bladder had also been observed and is mentioned, for instance, by Winckel.[3] Pawlik appears also to have been conversant with this phenomenon, but it remained for Kelly to make a systematic use of the fact and to apply it as a means of enabling a direct and thorough inspection of the interior of the bladder to be made. The necessary instruments for Kelly's method are now well known. The specula employed are essentially cylindrical thin metal tubes of varying sizes, numbered according to the diameter in millimetres. They are provided with a handle set at an angle for convenience of manipulation and with an obturator to facilitate introduction. The necessary light is obtained by means of a small lamp fixed on a forehead band or is reflected from an oil, electric, or other lamp by a forehead mirror.

The method of carrying out the examination is as follows. The patient lies on the back with the knees well drawn up and separated. The bladder is emptied by a catheter, then the urethra is measured by a conical calibrator, and the appropriate speculum, usually from eight to ten millimetres in diameter, is chosen and passed. The patient is now allowed to rest for a minute or two and is assured that what remains to be done will not hurt her. The sacrum is then raised from eight to 12 inches above the table by means of bran or sand pillows, the legs are flexed on the abdomen, and each is supported by a nurse or assistant, one of whom holds the lamp or other source of light to be employed. The observer adjusts his forehead mirror so as to project the light into the speculum and by appropriate movements can then inspect the whole interior of the bladder. When this has been done, as the speculum is withdrawn, the mucous membrane of the urethra is examined. As the end of the speculum is withdrawn into the upper end of the urethra the patient complains somewhat of pain and during the examination of the bladder any complaint of pain generally means that the speculum has been withdrawn so far that its end has engaged in the urethra; care should accordingly be taken to avoid this. The upper part of the urethra closes over the end of the speculum as this is withdrawn in a flat funnel shape. At the upper end the colour of the mucous membrane is red, with radial brighter red bands converging to the closed lumen of the urethra, these bands representing longitudinal folds in the mucous membrane. In the lower third, or rather more, of the urethra the colour of the mucous membrane becomes duller and more opaque red. After the withdrawal of the speculum the sacrum is lowered by removing the pillows and a catheter is passed to let out the air from the bladder. If this is not done the woman is apt to experience severe colicky pains in the lower abdomen owing to the presence of the air in the bladder. After the examination a short rest and occasionally a small dose of aromatic spirit of ammonia are desirable in some cases and the patient may be warned that for the first time or two after the examination micturition may be accompanied by some smarting. With this exception the examination causes no inconvenience.

Now let us consider briefly one or two practical points; in the first place, as regards the necessity or otherwise for anæsthesia. Occasionally where the bladder or urethra is excessively tender it may be desirable to administer a general anæsthetic; in other cases the use of a 10 per cent. solution of cocaine to the urethra is required, but in the great majority of cases, at least 90 per cent. in my own experience, neither local nor general anæsthesia has been required. In the next place, as regards the position of the patient it may be said at once that the knee-elbow is more efficacious than the raised sacral in giving rise to ballooning of the bladder and, indeed, Kelly appears to recommend the former as the routine position. It is, however, objectionable not only on æsthetic grounds but because, also, it very quickly tires the patient. Moreover, I found that of 200 cases in my own experience, in 150 the raised sacral position brought about satisfactory ballooning. In my practice, therefore, the knee-elbow position has been reserved for those cases, much the least numerous, in which ballooning does not occur in the raised sacral position. Sometimes when the bladder does not at first expand air enters more freely as the examination proceeds, but the reverse sometimes happens. Failure to balloon may be due to various causes, of which the chief one is obesity; in fat women ballooning does not take place in the raised sacral position and is sometimes unsatisfactory even in the knee-elbow position. Occasionally, again, urine is left even after a careful attempt has been made to empty the bladder by the catheter or by the patient herself, or it may happen that a rapid secretion of pale nervous urine is taking place. If the amount of urine thus present during the examination exceeds a few drachms it is apt to interfere with a proper view and requires to be withdrawn by means of the evacuator, a simple elastic suction apparatus. It is hardly necessary to

[2] This bladder appearance was suspected to be tuberculous. Lately my friend Dr. H. P. Motteram has been good enough to inform me that he has been attending this patient and that when he was called in first two or three months ago the bladder trouble had been getting worse; there were emaciation and night-sweats; the kidneys were not enlarged or unduly tender. There were tenderness at the neck of the bladder and apparently thickening of the bladder wall. The patient improved much after rest in bed and washing out the bladder with sulphate of copper solution.

[3] Billroth and Luecke's Handbuch der Frauenkrankheiten, Band iii., p. 344, 1886.

add that the greatest care must be taken in cleansing the vulva and in using only sterilised instruments and carefully prepared hands.

If now we compare Kelly's method of cystoscopy with electric cystoscopy we shall agree that both require practice, but I think we shall also agree that Kelly's method can be acquired with greater ease than the other. In neither method is an anæsthetic necessary in an ordinary case. The employment of Kelly's method demands more assistance than the electric method; the latter can be carried out on a suitable table even without any help, whereas the former requires at least two nurses or assistants. Further, it is not always possible to obtain a view of the inside of the bladder by Kelly's method; thus, for instance, in a patient, aged 67 years, with profuse hæmaturia I failed on three patient attempts without anæsthesia to obtain a satisfactory view of the inside of the bladder. Mr. Gilbert Barling examined the patient under an anæsthetic with the electric cystoscope and pronounced the bladder to be normal. The patient died later and the necropsy revealed right pyonephrosis and a left calculous kidney.

On the other hand, electric cystoscopy depends for success on the injection of water under pressure, which is not devoid of danger; moreover, when bleeding is going on the fluid becomes opaque and does not allow the walls to be seen. In order that the fluid may be retained in the female bladder a functionally intact sphincter must be present. As against these, Kelly's method depends on a passive distension of the bladder with air, bleeding does not interfere, and an intact sphincter is not necessary. Kelly's apparatus, moreover, is simple, easily sterilised, easily kept in order, and comparatively inexpensive. By his method the parts are seen directly, while in the electric method they are magnified and distorted so that considerable experience is necessary to enable the observer to form a correct opinion as to the size, shape, and extent of the changes giving rise to the appearances which he is viewing. Finally, Kelly's method allows the ureters easily to be sounded or catheterised and permits the employment of many operative and other methods of treatment.

In comparison with the older methods of examination by the sound and of digital dilatation, either method of cystoscopy possesses great advantages; not only may certain changes, such as ulcers or soft tumours, be easily and fully recognised by visual inspection while they may completely elude detection by the sound or by direct touch, but even when these latter methods are successful cystoscopy gives much more extensive and accurate information as to the conditions present. Further, the method is not more dangerous than the examination by the sound and is much less so than that by the finger.

The normal mucous membrane of the bladder is pale yellowish-red in colour with numerous blood-vessels that form delicate arborescent figures, sometimes anastomosing, scattered irregularly over the surface. As a rule the surface is smooth; occasionally in patches or all over it a delicate network of trabeculæ is seen, due in some cases to temporary contraction, in others and much less commonly to permanent hypertrophy of the muscular bundles. In Kelly's method the posture of the patient and the distension of the organ with air cause anæmia of the vesical mucous membrane, so that the colour appears paler than when seen by the electric cystoscope. On the posterior wall of the bladder a red patch is frequently caused by contact with the end of the speculum and this suction or contact hyperæmia must not be mistaken for a sign of local inflammation.

The shape of the female bladder when passively distended by air is frequently like that of two saucers placed one within the other, the lower wall of the bladder viewed from the inside being concave and the upper forming a downward convexity. The upper and lower segments then appear to be hinged together in a line running across the back of the bladder at about the level of the isthmus of the uterus. Observers are not yet agreed as to the mechanism upon which this shape depends. In the floor of the bladder is seen the trigonum, a triangular area distinguished by its uniform deep red colour from the rest of the mucous membrane. Near each posterior angle of the trigonum is seen a ureteral orifice as a fine point or as a delicate transverse line, two millimetres or so in length, running backwards and outwards and surrounded by a paler area one millimetre broad. The position of these openings varies from eight to 35 millimetres behind the internal opening of the urethra and from 13 to 40 millimetres from each other; commonly a small swelling or papilla is present near each posterior angle of the trigonum and the ureter opens on the swelling, not as a rule on the apex, but on one of the sides, especially the outer. The recognition of the ureteral orifices is as important, and it may be added as easy, as is the examination of the optic discs in ophthalmoscopy. Joining the two ureteral eminences the posterior border of the trigonum frequently forms a well-marked low ridge, behind which the rest of the floor with paler lining extends as a slight hollow to the front of the cervix. At intervals of a few seconds to one and a half minutes the ureteral orifice shows peristaltic movements, the opening becomes wider and sometimes more prominent, and from it is discharged a small stream of clear urine, after which it again closes and remains quiescent. It is difficult to tell whether the two ureters normally excrete together or not; the probability, however, is that each acts independently of the other. In one patient I noted the intervals between the successive escape of jets of urine; from the left ureter two succeeding intervals measured 66 and 87 seconds respectively; from the right, which was noted immediately afterwards, two succeeding intervals measured 54 and 58 seconds. In this patient the orifices of the ureters could not be clearly seen by the unaided vision except when they were actively contracting.

The ureteral orifices vary greatly in appearance in different patients but as a rule are similar in the same patient. Sometimes one orifice is seen to be much larger than the other and this may be due, according to Viertel, to compensatory hypertrophy of the kidney and ureter; sometimes it is caused by the passage of a ureteral calculus. Thus, in one of my patients the right ureteral orifice formed a considerable slit with a grey lumen the lips of which were normal in appearance, the left ureteral orifice was normal in size and appearance, and the right kidney was not enlarged or tender. The patient, a unipara, aged 28 years, was admitted complaining of pelvic pain since her confinement 17 months before. There had been frequent attacks of right lumbar pain for 20 years; the attacks had lasted from a few minutes to several hours; they had never been accompanied by vomiting or dysuria and there had never been hæmaturia. The patient brought an oval calculus which she had passed seven months before. It was of about the size of a French bean and had an annular constriction near one end. On one side of the constriction the stone was fairly regularly rounded, on the other it was smaller and had a flattened end. It appeared to be formed of urates with some oxalates. Sometimes the ureteral orifice "lies dead," undergoing no peristaltic movements; at other times peristalsis may be seen to take place without any discharge of fluid; from this latter sign, according to Viertel, no conclusion can be drawn. In renal hæmaturia and in discharge of pus from the ureter peristalsis is said to be usually absent and the ureter excretes in a slow continuous stream. The passage of a sound or catheter into the ureter is a perfectly easy proceeding in Kelly's method and instruments have been passed as high as the pelvis of the kidney in the search for stones or for the purpose of washing out in certain cases of pyelitis.

My own experience in the use of the cystoscope has been confined almost entirely to conditions of the bladder and urethra and the present paper is intended to deal with the bladder only. Among the most frequent indications for cystoscopy may be mentioned catarrhal conditions of the vesical mucous membrane. In acute cystitis the examination is unnecessary and possibly harmful even when it can be carried out. In long-continued and severe catarrh, on the other hand, especially when this is attended by great pain, it is often of great service to be able to see the characters of the changes in the bladder wall, more especially when there is any suspicion that the catarrh is secondary to tumour, stone, foreign body, or ulceration. The signs of catarrh are in the first place redness; this is usually, but not always, present and may depend either upon uniform injection of the capillaries or upon increase in number and size of the larger visible vessels. The redness may be diffused or may be limited to definite spots or patches; occasionally submucous hæmorrhages are seen. The normal smooth glistening appearance is not uncommonly lost, the surface of the mucous membrane becoming more or less roughened or velvety owing to the loss of the superficial layers of epithelium. In some cases swelling of the mucous membrane can be clearly made out and in others there are scattered shining transparent vesicles

up to the size of a small pea. This condition has been described by Kolischer as bullous œdema and is not infrequently seen on the mucous membrane covering those parts of the female bladder wall which are adherent to purulent swellings and also in certain cases of cancer of the cervix with implication of the wall of the bladder. The excessive formation of mucus is another effect of inflammation, the secretion varying from a thin fluid that easily escapes to a thick tenacious layer which cannot be completely got rid of by washing. Where stone is present, catarrh of the mucous membrane is often seen in islands or patches, encrusted with phosphates. I was indebted to Mr. A. Lucas for the opportunity of seeing such a case. On August 28th, 1902, we examined a middle-aged woman in the knee-elbow position under anæsthesia. A phosphatic stone of the size of a small walnut had dropped to the apex of the bladder which in this position was the lowest part of the organ. There was patchy redness of the vesical mucous membrane, especially near the base, and on the left side of the posterior wall near its lower part was an irregular white patch of phosphatic deposit.

Sometimes in a severe cystitis a marked papillary inflammation may quickly develop, as in the case of a single girl, aged 23 years, from whom Mr. W. F. Haslam removed through a suprapubic incision a hairpin which had apparently been in the bladder for two months. The hairpin was thickly coated with phosphates and oxalates, and after its removal severe cystitis persisted. I saw the patient six weeks afterwards when the urine was alkaline, offensive, and contained much pus. The bladder did not balloon, but all parts of its mucous membrane that could be brought into view were bright red and granular. The urethra was normal in its upper half; in its lower half it was red and velvety. In this case culture gave a growth of five or six different kinds of organisms, including staphylococcus pyogenes albus and probably bacterium coli.

Ulcers of various kinds are frequently seen, especially about the base of the bladder; these may be catarrhal or due to injury caused by foreign bodies or calculi. Diphtheritic and gonorrhœal ulcers have also been described. Tuberculous affections of the bladder are not uncommon in the female and I have notes of ten cases of very varying degrees of severity. A single patient, aged 19 years, was sent to the General Hospital on Jan. 12th, 1899, as a case of menorrhagia. The supposed menstrual bleeding turned out to be a profuse hæmaturia. The urine drawn off by the catheter was at first clear but towards the end it contained much blood. The cystoscope showed all over the interior of the bladder reddish nodular swellings with soft-looking surfaces; at the base was a whitish, ragged-looking surface with a nodular border. The right ureter was seen as a small bright red pit in the midst of a mass of the growth. The urine from it was clear. The left ureter could not be found. Tubercle bacilli could not be demonstrated in the urine. There was a strong family history of tuberculous disease. The symptoms were said to have begun with pain in the sacrum and hips and the sudden loss of half a pint of blood in one night three months before being seen. This patient died five months later.

In another patient, a single woman, aged 38 years, the cystoscope was of great use in helping to clear up the diagnosis. The patient was complaining of her womb coming down and of dysuria which had existed more or less since the age of 18 years and had been much worse in the last three months. The patient was thin, not anæmic; there was a primary retroversion for the treatment of which the patient was referred to me. The urine, which was of specific gravity 1014 to 1020 contained pus and showed a thick cloud of albumin, probably more than corresponded to the amount of pus present. The bladder held six ounces of urine; on the left side of its floor, just inside the entrance of the urethra, was a small red raised patch. A second similar patch with two or three minute grey specks in it was seen on the trigonum; the right kidney could be felt but was not obviously enlarged. A probable diagnosis of tuberculous kidney was made. The above notes were taken in November, 1900; nearly three years later, on July 25th, 1903, the patient was seen at home; she had had to work hard after last being seen and subsequently was very ill for five or six months; for the last 12 months she had not been able to work but had got up for a part of each day. There was extreme emaciation but no obvious anæmia; a large tender mass filled up the right loin and extended downwards as far as the iliac crest. There was still pus in the urine but no frequency and rarely pain in micturition. There was occasional diarrhœa with mucus in the stools; moist sounds were scattered over both lungs and there was some cough. The patient was now suffering from a right perinephritic abscess and general tuberculosis.

Stone in the bladder is relatively uncommon in the female. When present it cannot always be detected by the use of the sound and in any case the cystoscope presents great advantages over this instrument; by it the presence of cystitis, of ulcers, or of patches encrusted with phosphates is readily seen, while its use is not a whit more painful or risky. Gynæcologists not infrequently meet with stones in the bladder due to perforation of the walls of that organ by ligatures in the process of extrusion. I have seen at least three of these cases, one of which occurred after an operation by myself. Two large pyosalpinges and a fibroid were removed from a woman, aged 47 years; two and a half years later severe pains in micturition began and gradually increased. On March 22nd, 1902, the cystoscope showed in the left lower posterior part of the bladder a small calculus not much larger than a pea imbedded in a depression of the mucous membrane; this was with a little difficulty removed by forceps through a Kelly's speculum and then a ligature encrusted with phosphates was removed from the same depression. Nine months later another calculus of the size of a French bean was removed from the right lower part of the posterior wall.

Foreign bodies as opposed to calculi are found with comparative frequency in the female bladder and Kelly's cystoscope forms a most convenient method of detecting and removing them. The only case of a foreign body that has come under my notice was one in which the end of a glass catheter was broken off and remained in the bladder; the pieces were removed by a lithotomy evacuator before the time when I became acquainted with the method of cystoscopy which we are now discussing.

In certain morbid conditions of the urine the use of the cystoscope is of the greatest service. Thus, for instance, where much pus is present we are enabled to determine whether it comes from one or both kidneys or from the bladder, or whether it is being discharged from a perforated abscess or pyosalpinx. Blood present in the urine may result from many different conditions, vesical, urethral, or renal. Except where the amount is slight in acute cystitis, or where it is due to hæmorrhagic nephritis, a cystoscopic examination is indicated and especially where the bleeding is of long duration or often repeated. Inspection of the bladder usually enables us with ease to determine whether the bladder is the source of the blood or not. It must not be forgotten, however, that occasionally two sources may coexist, one in the bladder and one in the kidney. In the examination of these cases Kelly's method presents a great advantage over the use of the electric cystoscope in that it is feasible even when actual bleeding is going on. Bleeding from the bladder may be due to a large number of different conditions; occasionally it is said to be due simply to diapedesis, as, for instance, in pre-menstrual hyperæmia (Viertel). Sharper bleeding sometimes occurs in active congestion or in acute cystitis; catarrhal and other ulcers, especially tuberculous, foreign bodies and tumours, may all give rise to hæmaturia. Where from the history of the patient a stone or foreign body is suspected to be present the cystoscope should be used in preference to the sound. It is important to remember that in tubercle the passage of blood in the urine is often an early symptom and that an unexpected large hæmaturia is not infrequently the first indication that grave mischief is present; in such cases ulceration has always taken place and when present in the bladder or urethra the ulcer can always be seen.

In certain cases, which have been called bacteriuria, large numbers of organisms are found in the urine with no visible alteration in the vesical mucous membrane. A single girl, aged 19 years, had complained of pain on micturition and increased frequency, especially at night, for 27 weeks; there had been only one menstrual period in the last six months. The urine was cloudy and alkaline, contained a small number of pus cells and an enormous number of bacteria, chiefly motile. The generative tract showed no abnormal physical signs and the cystoscope on two occasions showed no abnormal change in the mucous membrane of the bladder or urethra, with the exception of slight tenderness of the trigonum unaccompanied by increased redness.

In female patients affected with incontinence of urine the

use of the cystoscope may give important indications for treatment. In ordinary cases of incontinence in children and young women no abnormal physical signs can be made out about the urethra or the bladder, except that the mucous membranes frequently appear to be decidedly paler than usual. Cystoscopy in these patients is usually easy. The affection appears to depend on a late development of the inhibitory fibres connecting the higher nervous centres with the centre for micturition in the lumbar cord; clear cases of this description are rare after 25 years of age. Several of my cases appeared to be markedly benefited by the use of the cystoscope. It is important to remember that nocturnal incontinence in young women may be due to epilepsy; in these cases, again, no abnormal physical signs are present. In another group of cases of incontinence in young women the bladder is found to be redder and more vascular than usual and the neck of the bladder and trigonum markedly tender. The vascularity may be generally diffused over the whole bladder or it may be limited to the trigonum and neck; here the cause of the incontinence is found in the local hyperæsthesia and is not chiefly due to defective control as in the other cases. Belladonna is therefore the indication in one group of cases, and strychnine with iron tonics in the other group. Occasionally a patient comes complaining of incontinence who is really the subject of a grave disease. A single woman, aged 23 years, was seen on August 31st, 1900. She had had constant dribbling of urine for five months, for which time also she had been unable to work. Seven years ago she had been ill in a similar way for two months. The present attack began suddenly while carrying a hod of coal. The urine was constantly dribbling and had given rise to much irritation of the skin of the vulva and neighbouring parts. The patient was examined by the cystoscope without an anæsthetic; no ballooning took place. The bladder was contracted; from its floor a bright red, easily bleeding patch with granular surface like a mulberry projected; part of the upper wall of the bladder appeared in the form of two folds of mucous membrane of normal colour. The diagnosis in this case was chronic cystitis, probably tuberculous.

Irritability of the bladder in gynæcological patients is another common symptom in the elucidation of which the cystoscope is of great use. Where the irritability is marked the question as to whether it depends upon some condition of the urinary tract itself, or whether it is due to some affection of the generative organs that may also be present, is decided by the presence in the first case of some morbid change in the urine or of decided pain in micturition. In very many cases both pain and alterations in the urine are absent, the vesical and urethral mucous membranes are normal, and the vesical irritability depends upon some affection of the generative organs. Here the cystoscope helps us to understand the mechanism of production of the increased frequency of micturition. In some cases the vesical irritability appears to be caused reflexly, as, for instance, in certain diseases of the mucous membranes, vulvitis, vaginitis, mucous polypi, and sometimes endometritis; where the symptom is reflex the mucous membrane of the bladder and urethra is normal in colour and appearance. In other cases again the bladder and urethra participate in the hyperæmia and increased sensibility of the pelvic organs set up by acute inflammatory changes, such as metritis, pelvic peritonitis, cellulitis, or pyosalpinx. In several patients the bladder has been observed by me to become red almost suddenly during an examination, and it appears probable that increased frequency of micturition may sometimes depend upon vaso-motor disturbance giving rise to such a condition of morbid flushing of the mucous membrane.

While all the conditions just named may themselves suffice to cause vesical irritability, we can only conclude that they do so when the urine and urinary organs are themselves proved to be sound. Not uncommonly an apparently sufficient cause for dysuria is present in the genital tract and at the same time there coexists some morbid condition of the urinary mucous membranes, this latter being responsible for the symptom; thus, for instance, in a case of tuberculous cystitis above mentioned there was also present retroversion of the uterus; in another case of irritability due to chronic catarrh of the bladder in a woman, aged 62 years, there was a small quiescent fibroid in the fundus of the uterus.

One of the most important uses of the cystoscope to the gynæcologist is to enable him to ascertain the relation of the bladder to certain affections of the neighbouring generative organs. Purulent collections, such as pelvic cellulitis, pyosalpinx, or suppurating ovarian tumours, may merely press upon and alter the shape of the bladder without causing any change in the mucous membrane. When, however, adhesions form between them and the bladder the corresponding part of the vesical mucous membrane usually presents more or less thick folds, either normal in colour or swollen and œdematous, sometimes with the formation of scattered clear vesicles, the condition above referred to as bullous œdema. When the abscess has opened into the bladder the orifice may be seen surrounded as a rule by red granulations. After an inflammation adherent to the bladder has run its course cicatricial bands may persist, as in the case of a terti-para, aged 33 years, who had a deep laceration on the left side of the cervix, from which a cicatricial band ran outwards towards the side of the pelvis. There was much pelvic pain attended by frequency and scalding in micturition. The cystocope showed that the bladder and ureters were normal, except that there were several thin, pale bands running transversely on the left lower posterior wall of the bladder; the position of these corresponded with the cicatricial band at the base of the left broad ligament. The urine was normal; a small amount of opaque discharge could be squeezed from the lower end of the urethra.

In carcinoma of the cervix Winter describes progressive changes that take place. When the growth begins to lay hold of the bladder wall the mucous membrane first becomes raised into ridges or folds, usually running parallel to each other. These folds gradually become higher and then the mucous membrane becomes œdematous and small vesicles make their appearance. The changes thus far are just the same as those found in adherent suppurative conditions. Later may be seen small nodules or flat prominences which, by their opacity and the peculiar lustre of their surface, are easily to be recognised as cancer. Hitherto there may have been no trace of cystitis, but when these nodules ulcerate their surface becomes rough and covered with whitish, more or less firmly adherent shreds of tissue, and at this stage there is usually extensive cystitis. In the following case the malignant disease was seen to have already infiltrated the base of the bladder. A quinti-para, aged 41 years, had a deep excavated ulcer of the cervix. Under anæsthesia it was found that the growth extended out to the right side of the pelvis and that there was a deep excavation of the anterior wall of the cervix. On the right side of the floor of the bladder was a distinct circular elevation with well-defined edges; the surface was greyish white and opaque in colour; the rest of the interior of the bladder was normal. The cervical ulcer was scraped and the cavity was packed with formalin. The changes above described are usually late and the first formation of folds on the mucous membrane indicates disease implicating the vesico-vaginal septum. The cystoscope may, of course, fail to disclose the fact that a growth has actually begun to invade the wall of the bladder, as was evidenced in the case of a single woman, aged 38 years, who had a diffuse cancer affecting practically the whole length of the vagina. Cystoscopy showed no sign of abnormality of the bladder, ureters, or urethra. The whole vagina with the uterus was removed by operation, but prompt recurrence took place on the left side of the bladder behind the trigonum and led to the death of the patient from suppurative nephritis seven months after the operation. In this patient a vesico-vaginal fistula, which formed ten days after the operation, appeared in the midst of a small patch, about one centimetre square, of red granulations on the left base of the bladder just behind the trigonum.

Thus far I have confined my remarks to the value of Kelly's method of cystoscopy in the diagnosis of certain conditions and symptoms belonging to the urinary system. The specula devised by Kelly have been found by me to be of much use also in the investigation of the condition of the vagina and cervix in young children and in patients of older growth in whom the vagina is narrow. In the treatment as well as in the investigation of many affections of the bladder and urethra Kelly's method is of the most conspicuous service. Various kinds of applications can be exactly made to any part of the mucous membrane that is desired, the curette or a snare may be applied with precision, and foreign bodies or small calculi may often be removed through a speculum of moderate size. Time allows only the bare mention in this place of the application of the method

to the diagnosis and management of affections of the ureters and kidneys. In conclusion I desire to emphasise my opinion that in cystoscopy, especially by Kelly's method, the gynæcologist has been presented with a most valuable addition to his resources. The cystoscope may sometimes enable him to avoid a diagnosis that is entirely erroneous; in very many cases its use amplifies or renders more definite a conclusion correctly formed up to a certain point. Thus, for instance, it enables him to determine the exact relation in which the bladder stands to some disease in its neighbourhood or to understand the precise mechanism by which in a given case increased frequency of micturition or some other urinary symptom is produced. Increase in the number and accuracy of observed facts renders inference more certain and treatment more precise.

References.—Von Winckel, in Billroth and Luecke's Handbuch der Frauenkrankheiten, vol. iii., 1886; Viertel, in Veit's Handbuch der Gynäkologie; Kelly's Operative Gynæcology; Kelly, in American Journal of Obstetrics, vol. xxix., 1894, p. 1; and Rubeska, Kelly, and Pawlik in Centralblatt für Gynäkologie, 1896.

Birmingham.

GLANDULAR FEVER.

BY JOHN W. BYERS, M.A., M.D. M.A.O.
(HON. CAUSÂ) R.U.I.,
PROFESSOR OF MIDWIFERY AND OF DISEASES OF WOMEN AND CHILDREN, QUEEN'S COLLEGE, BELFAST; PHYSICIAN FOR DISEASES OF WOMEN TO THE ROYAL VICTORIA HOSPITAL, BELFAST; PHYSICIAN TO THE BELFAST MATERNITY HOSPITAL; AND CONSULTING PHYSICIAN TO THE BELFAST HOSPITAL FOR SICK CHILDREN.

SINCE the middle of the month of November an epidemic has been prevailing in Belfast and in some parts of the north of Ireland, chiefly among children, of a kind which I have not observed before either in private practice or during the years that I was physician to the Belfast Hospital for Sick Children and which seems to me to correspond to the clinical entity described in 1889 by Pfeiffer and termed often by German writers Pfeiffer's Drüsenfieber. Heubner, Dawson Williams, Comby, Donkin, and J. P. West have also contributed largely to the literature of glandular fever. My knowledge is based on 33 cases, some of which occurred in two public institutions, while the others were seen in consultation.

In regard to age, the youngest case was 13 months and the oldest was a female servant, aged 25 years, in a family where the children were attacked; but with the exception of two cases (the one I have mentioned and another, aged 21 years) all were children or young people under 16 years of age. The onset, as a rule, was sudden and the incubation was from five to seven days. As regards the symptoms, in some of the cases the children went to bed in the evening complaining of slight sore-throat; on the next morning there were sharp fever (from 102° to 104° F.) and pain on one side of the neck which was tender on pressure and held stiffly; this was succeeded in another 12 hours by a distinct swelling of the glands beneath, and to the front of, the sterno-mastoid. In the majority of cases a similar enlargement appeared involving the corresponding deep glands of the opposite side of the neck. In the cases seen by me the right side was first affected as a rule. In another group of cases the children complained of little or nothing until the glands of the neck seemed suddenly to enlarge and such cases when seen for the first time in such a condition resembled somewhat aberrant forms of mumps. In the more severe cases headache was complained of as an initial symptom and in a few sickness and vomiting were present and some abdominal pain, but I failed to detect any objective signs of involvement of the mesenteric glands. In none of the cases was the throat in any way affected beyond some slight congestion and in the majority it was natural and showed no abnormal change to explain the slight dysphagia. As to the glands affected, as a rule they were the deep ones under, and in front of, the sterno-mastoid, but in others those in the posterior triangles of the neck were involved. No suppuration occurred in any of the cases and the enlargement of the glands subsided in most of the cases in a week or two from the onset of the attack. In one case the swellings remained longer, the temperature going up and down most of that time in an erratic manner. The majority of the children were convalescent within a week; in some of the severer cases, however, those attacked remained poorly and looked anæmic for a period of from three to four weeks. When the disease entered a house nearly all the children were attacked and in one place two of the female domestics—both adults. No rash appeared in any of the cases nor was there any kidney or other complication, and none suffered from depression except the very severe cases. None died. As to diagnosis, when a case was first seen the adenitis seemed secondary to some throat mischief but after careful examination no sufficient tonsillar or pharyngeal mischief to cause the glandular swellings could be detected; and the presence of other cases in the same house showed that what one had to deal with was an epidemic fever. In the *British Medical Journal* of Dec. 5th, 1903, p. 1492, there is described an "epidemic sore-throat and suppurative mammitis in cows," but in none of the cases seen by me were there any such conditions observed in the throat, and the cases were in groups widely separated and with no common milk-supply. The mild type of cases when seen for the first time with a well-marked unilateral swelling of the neck looked like a form of aberrant mumps, but careful examination showed that the parotid gland was not involved and the children had no pain in closing the jaws or in eating; besides some of the children had previously suffered from mumps. It has been suggested that the disease might be a peculiar form of influenza; but as a rule in recent years when abnormal types of that most protean disorder occurred we were able to diagnose them as being due to the influenza poison from the circumstance that in the same house or locality other ordinary forms of that disease occurred. None of these usual forms of influenza were met with among the cases which I have described or in the houses in which they occurred. I believe the cases I have tried to describe were true examples of that acute epidemic infectious fever in which there is primary enlargement of the lymphatic glands. The poison of glandular fever is probably microbial and the present extraordinary atmospheric phenomena may have provided precisely those conditions necessary for the growth of the infective germ which causes the disease. Some have suggested that infection is through the intestine; in the cases seen by me it looked more as if the invasion was by the throat.

Since writing this article I find that in a family where the children suffered from the ailment I have described two of the adults developed a follicular tonsilitis, but in them, although the glands of the neck were tender, there was no palpable enlargement.

Belfast.

PATHOGENESIS OF DEAFNESS DUE TO CHRONIC NON-SUPPURATIVE MIDDLE-EAR DISEASE.

(SYNONYMS: SCLEROSIS OF THE MIDDLE EAR, DRY MIDDLE-EAR CATARRH, OTOSCLEROSIS, FIXATION OF THE STAPES, OTITIS METIA INSIDIOSA, CHRONIC PROGRESSIVE DEAFNESS, &C.)

BY D. CHALMERS WATSON, M.B., F.R.C.P. EDIN.

IN March, 1902, I published[1] a preliminary note on a method of treatment of chronic non-suppurative middle-ear disease, the essentials of the treatment being the local use of a product of bone marrow combined with appropriate massage and attention to the Eustachian tube. It was pointed out that this treatment had been in many cases more beneficial to the patients than the ordinary treatment consisting in the occasional use of the catheter and various medications to the nose or nose-pharynx. A later record of results with a reference to the principles underlying this treatment and a statement of the limitations to its success were published in August, 1902.[2] Further experience of the treatment has confirmed the favourable impressions recorded in my original paper. This experience has at the same time led to two modifications. The first of them is the use of a clear

[1] Brit. Med. Jour., March 22nd, 1902, p. 699.
[2] Ibid., August 30th, 1902, p. 612.

fluid preparation of bone marrow obtained from the manufacturers and designated "myelocene fluid." The use of this preparation overcomes, at any rate in part, one of the difficulties of treatment reported in my earlier paper—viz., the use of a fatty substance with a high melting point. The second modification is the replacement of the digital vibration described in my first paper by the mechanical aids referred to in the second communication. The present paper is concerned with the pathogenesis of the disease. It is advisable in the first place to define clearly the present opinions of experts on this question. In a discussion on the Aims and Limitations of Intranasal Surgical Procedures in the treatment of Chronic Non-suppurative Middle-ear Disease held at the annual meeting of the British Medical Association in 1902, the present position of our knowledge was thus defined by Dr. Urban Pritchard: "In the present state of our knowledge it will be most convenient to group them (cases of chronic non-suppurative middle-ear disease) into the following classes: (1) chronic middle-ear catarrh and its results; (2) sclerosis; (3) intratympanic adhesions from acute and subacute non-suppurative inflammations; and (4) mixed cases of the above"—the foregoing classification being regarded as of practical importance from the point of view of treatment. In summing up the President of the Section (Dr. W. Milligan) "considered that the discussion had proved of value in that it had elicited what appeared to be the unanimous verdict of all the speakers, that in *genuine sclerotic catarrhal conditions of the middle ear* intranasal operations were useless and were even harmful, in *chronic non-sclerotic catarrhal conditions of the tympanic mucous membrane*, where inflation improved the patient's hearing power and where some genuine respiratory difficulty was complained of by the patient intranasal surgical procedures were of value and at times markedly so." Now, while these classifications leave some doubt in the mind as to the precise ideas which the writers entertain regarding the relationship of the pathological processes involved in the respective groups, they clearly indicate a belief that at least two distinct pathological processes are at work in the production of chronic non-suppurative middle-ear disease, and further, that the recognition of these two processes is of fundamental importance in treatment. In the latest edition of Politzer's classical work (1902) this differentiation is accentuated by the devotion of a special chapter to "otosclerosis," the synonym of this affection being stated as "proliferous inflammation of the middle ear" (Roosa), otite media iperplastica (De Rossi) and capsulitis labyrinthi, the disease being regarded as one which is in the majority of cases, in its pathology, etiology, clinical features, and treatment, perfectly distinct from, on the one hand, deafness due to "catarrhal adhesive processes" and on the other cases of "nerve deafness."

The objects of this communication are: (1) to indicate that the data available for the complete differentiation of more than one morbid process are by no means conclusive; (2) to record facts which lead me to form an opinion as to the unity of these various affections; (3) to point out the importance of settling the query from the point of view of treatment; and (4) to suggest that valuable evidence, and probably essential facts, can be obtained from a too much neglected field of study—comparative pathology. It will here be convenient to indicate briefly the grounds on which two morbid processes are generally differentiated. The clinical reasons may be summarised in the statement that there is met with in practice a not inconsiderable number of cases of deafness due to non-suppurative middle-ear disease in patients who are *not* subject to "colds in the head," the subjective testimony of the patient being supported by the fact that the Eustachian tubes are found unobstructed at the time of examination and the tympanic membrane normal or nearly so. The facts of morbid anatomy relied on are the following.

Many post-mortem examinations have been made—notably the Toynbee collection in the Museum of the Royal College of Surgeons of England—which have revealed as the result of examination with the unaided eye swelling and congestion of the lining membrane of the middle ear with a varying degree of adhesions, thickened tympanic membrane, and alterations in the articular structures. These constitute the group of cases designated hypertrophic catarrh. Other cases have shown a condition which is in great part the antithesis of the foregoing. "On removing the roof of the middle ear affected with the disease the first thing that strikes one is the wideness, whiteness, and dryness of the whole cavity, the contained structures being clearly defined. Fine membranous septa in various parts can be seen and are apparently the atrophied remains of the folds of the lining membrane. A well-marked membrane is sometimes seen running from the tendon of the tensor tympani to the roof. On microscopical examination the layers are atrophied and the distinctive characteristics cannot be made out. The base of the stapes is fixed to the oval window either by calcification, ossification of the ligamentous ring, or by deposit of new-formed osseous tissues upon the inner surface of the foot-plate, and a complete bony union of the wall of the oval window may exist" (Cheatle[3]). These constitute the cases clinically designated as atrophic catarrh. Further, as a result of about 20 post mortem examinations (Politzer, Katz, Habermann, Bezold, and others) there have been described cases which have shown to the unaided eye little or no change in the lining membrane of the tympanic cavity or in the tympanic membrane, the changes present being largely confined to the neighbourhood of the stapes articulation and consisting mainly in bony enlargement. In some cases the sclerosis involved the labyrinth—hence one of the synonyms, capsulitis labyrinthi. The first complete description of this condition was given by Politzer[4] and was based on a series of seven cases that had been observed during life. He has applied the term "otosclerosis" to this condition.

With reference to the foregoing I venture to offer a criticism and before entering into the necessary details I would summarise my position in the following statements. 1. A closer and more systematic study of cases of deafness due to chronic non-suppurative middle-ear disease will lead to a reversal of the opinion generally held as to the absence of clinical indications of catarrh in the group of cases variously described as sclerosis of the middle ear, atrophic catarrh, otosclerosis, &c. Further, the observations necessary to determine this point cannot be made by physicians who only see the cases at rare intervals. 2. If the known facts of morbid anatomy and pathology of cases of chronic non-suppurative middle-ear disease are brought into line with similar facts in the pathology of other mucous membrane and joint structures the impression is forced upon us that the different conditions described in the middle ear can be adequately explained as variants of one morbid process. The grounds for these opinions will be shortly stated.

In a series of over 200 cases that have been closely observed in the last two and a half years in my clinic or private practice I have not met with a single instance where there has not been either (1) a clear history of frequently recurring "colds in the head" of a slight or severe nature, or (2) in patients who definitely affirmed that they were not subject to colds, unequivocal evidence of an intercurrent naso-pharyngeal catarrh in the course of the few weeks in which these patients were daily observed. Further, on every occasion when the patient's attention was drawn to the point it was affirmed that the condition present was a frequently recurring one but had not ranked in their minds as a common cold. The clinical features referred to are evidence of obstruction to the passage of air into the tympanic cavity by means of a Eustachian catheter to an extent appreciably greater than existed before the onset of the said cold; this was frequently associated with a very slight alteration in the quality of the voice noticeable to the observer and also an alteration in the character of the breathing. It is advisable to draw particular attention to these cases because as many of them had previously been under the care of experts and no special treatment had been directed to the Eustachian tube one is justified in believing that these are cases regarded as "sclerosis of the middle ear" rather than "catarrhal deafness."

The record of clinical facts just stated naturally suggested a study of the known facts of the morbid anatomy of the cases in question with the view of determining how far they justified the recognition of two or more diseases, the practical importance of the inquiry being evident from the different prognosis and treatment of the various conditions. This investigation involved (1) a careful examination of the valuable series of pathological specimens in the well-known Toynbee collection in the Museum of the Royal College of Surgeons of England, the examination being as complete as possible short of actually handling the specimens.

[3] Encyclopædia Medica, vol. iii.
[4] Zeitschrift für Ohrenheilkunde, vol. xxv.

In this examination special attention was directed to a consideration of how the appearances shown and described in the soft tissues, in the bony tissues, and in the local tissue fluids of the ear would compare with those met with in the neighbourhood of other articular structures which are usually described under the heading of chronic rheumatism or rheumatoid arthritis; and (2) special consideration of the facts of morbid anatomy which have led to the recognition of a perfectly distinct disease, "otosclerosis." This disease is one to which increasing importance is being attached as the cause of the impaired hearing in young people in a considerable number of the cases of chronic non-suppurative middle-ear disease. The prognosis associated with it is very bad and little or no treatment is adopted, probably on account of the statement of Politzer that "from the anatomical changes found in the labyrinthine capsule it is evident that our therapeutic efforts must remain fruitless in this form of disease."

Two impressions are derived from this investigation. The first is that in the atrophic group of cases the absence of a detailed histological report of the lining membrane of the middle ear and descriptions of the naked-eye and microscopic appearances of the Eustachian tube makes any conclusion impossible as to the non-identity of this affection with that commonly spoken of as a hypertrophic catarrhal disease. The fact well known to pathologists of the frequency with which an "atrophic" appearance succeeds a "hypertrophic" one in catarrh of mucous membrane makes it probable that this is the explanation of the cases in question. The morbid anatomy of this mucous membrane must be brought into line with that of other mucous membranes. I have recently[5] shown and described an "atrophic" and "hypertrophic" condition of the intestinal mucous membrane which in my judgment is similar in nature to the two processes seen in the ear. With regard to "otosclerosis" a similar criticism applies. The absence of an adequate clinical history and of a histological report on the lining membrane of the middle ear and of a description of the state of the Eustachian tube renders the records incomplete. Further reference to the original paper which led to the recognition of otosclerosis as a distinct disease shows that the patients were old subjects, the respective ages of the seven cases being 77, 86, 75, 75, 50, 86, and 88, the average age therefore being 76. In view of the state of the tissues generally at that period of life too much stress must not be laid on the absence of "reactive phenomena" of inflammation such as are present in younger subjects. A reference to the other three original papers on "oto-sclerosis" to which I have had access shows an absence of unanimity as to the nature of the pathological process. Katz[6] concluded that in his case, a woman, aged 39 years, the condition was a *rheumatic inflammation*. Habermann[7] considered that in his case, a woman, aged 58 years, the disease was secondary to an inflammation of the lining membrane of the tympanic cavity. Bezold[8] regarded the condition as a primary inflammation of the periosteum in the neighbourhood of the stapes articulation. In these records also there is an absence of information as to the state of the aural passages, and in all the records there has been little or no reference to the general medical aspects of the case and no account of the post-mortem appearances of other joints and tissues of the body.

On these grounds, then, I consider that the data at present available do not warrant the recognition of more than one disease. The known facts can be adequately explained by reference to variations in local reaction—e.g., varying amount of exudate and varying degree of formation of new tissues, fibrous and osseous, such as are met with in chronic inflammation in other articulations. The correctness or otherwise of this opinion will not readily be determined from the examination of cases of disease in the human subject. Recourse must be had to comparative pathology, the study of which presents the following advantages. The tissues can be obtained at a relatively early stage of the disease; an adequate examination of the Eustachian tube, middle ear, and tympanic bulla is more easy than in the case of the human subject; and a more complete post-mortem examination of the whole animal can be made than is generally possible in man. I have examined three cases of deafness in dogs and have used as controls two cases where there was no history or evidence of deafness. In the case of two dogs the deafness was stated to exist by the owners, this opinion being shared by the expert veterinary surgeons at the New Veterinary College, Edinburgh, to whom I am indebted for the heads of the animals. The third dog was the property of a medical friend who had observed the onset and steady increase of the deafness. This was submitted to a complete post-mortem examination which revealed gross lesions—viz., chronic endocarditis and chronic intestinal catarrh, with a remarkable condition of stenosis of the intestine. The co-existence of these lesions is of great interest but their consideration is beyond the limits of the present paper, which will deal with the local lesions in the middle ear and Eustachian tube. It is well to emphasise that no conclusions can be drawn from the few facts here presented; my main object will be fulfilled if the attention of investigators is drawn to comparative pathology as a field of study well calculated to advance our knowledge of this department of human medicine.

The results of the examination[9] may be summarised. The Eustachian tubes of the deaf dogs showed distinct evidences of catarrh, the tympanic membranes were

FIG. 1.

The lining membrane of the tympanic bulla in a dog with no indication of ear disease. × 50.

more opaque than normal, the mobility of the tympanic membranes and of the ossicles was impaired, the density of the temporal bone was increased, and the lining membrane of the tympanic bulla was extensively congested and thickened (see Fig. 2). A histological examination of the tympanic mucous membranes and also of the lining membrane of the tympanic bulla showed marked thickening—sclerosis—with increased vascularity. Special attention is drawn to the histological appearances of the Eustachian tube seen in Fig. 4. They suggest a query as to the soundness of the principle of the treatment of such cases by the use of Politzer's bag. This deafness can be explained by a diagnosis of "chronic hypertrophic catarrh"; at the same time the increased density of bone and overgrowth of fibrous tissue also justify a diagnosis of "otosclerosis." The amount of exudate and of adhesions was less than has frequently been found in cases of chronic catarrhal deafness in the human subject; further, the sclerosis of bone was diffuse throughout the temporal bone and was not mainly localised to the inner wall of the middle ear, as in cases of otosclerosis. But we know that similar variations are seen daily in other articulations in cases of chronic rheumatism where they are probably rightly regarded as mere variants of one pathological process and in the absence of further facts we are, I

[5] Journal of Mental Science, July, 1903.
[6] Deutsche Medicinische Wochenschrift, 1890.
[7] Schwartze's Handbuch.
[8] Zeitschrift für Ohrenheilkunde, vol. xxiv.

[9] I have much pleasure in expressing my indebtedness to Dr. D. Waterston, curator of the Museum of the Royal College of Surgeons, Edinburgh, for invaluable assistance with the dissections.

believe, justified in so regarding the aural cases. The appearances in the soft tissues and in the bony tissues of the ear are those of chronic inflammation; they represent the manner in which these tissues respectively react to irritants of bacterial origin. In recent years it has become

FIG. 2.

The lining membrane of the tympanic bulla in a deaf dog. Examination post mortem revealed chronic "dry catarrh." The dark bands are blood-vessels. × 50.

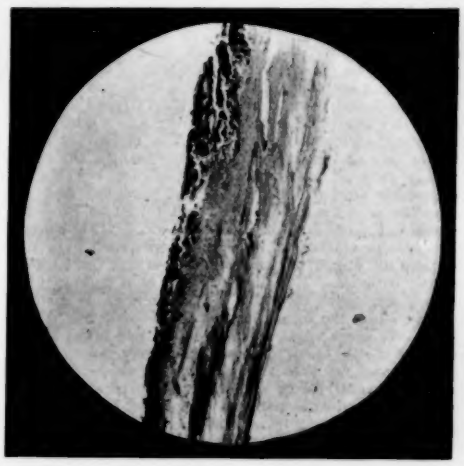
more and more evident that the only theory that allows the full meaning of inflammation to be grasped is the broad biological conception which recognises in inflammation an adaptive, protective, and reparative tendency common to the reactions to injury among all animals. Inflammation brings

FIG. 3.

Vertical section of inner layer of the Eustachian tube, upper part, in a healthy dog. Section shows a single layer of columnar epithelium lying on a dense fibrous tissue—periosteum. Note the number of blood-vessels. × 50.

into operation a number of factors to counteract harmful agents, to protect the organism at large, and to effect healing. The common mode of origin, the similarity of the changes (though combined in different proportions) and the evident tendency of inflammatory processes to protect and to repair fully justify the teaching that inflammation is essentially an adaptive, protective, and reparative process, a means of self-preservation. Yet it must not be forgotten that the mechanism of defence and preservation is far from perfect; the exudate may possess but little bactericidal power; the phagocytes may be powerless or the bacteria may multiply freely within them; extensive destruction of tissue may occur before the virulence of the bacteria is neutralised; the fixed cells may form imperfect material for repair or multiply in excess; the resulting cicatricial tissue may lead to serious functional disturbances (Hektoen-Riesman). A consideration of these points explains all the clinical and pathological features of cases of chronic non-suppurative middle-ear disease. The attention of aurists is only directed to these cases because the resulting local reactions which are mainly of a protective nature have, as it were accidentally, induced serious functional disturbances. With regard to the causal agents of the inflammation nothing definite can be said. We know that the common causes of injury to tissue are bacterial. With regard to aural disease it is known that the clinical picture of acute otitis media can be produced by the pathogenic activity of at least three different bacteria—streptococcus pyogenes, staphylococcus pyogenes aureus, and the pneumococcus. It is conceivable

FIG. 4.



Vertical section of the Eustachian tube of the same animal as the specimen in Fig. 2. Notice the pronounced catarrh of the lining membrane and the increase in size and number of the blood-vessels in the periosteum. × 50.

that the chronic forms of inflammation may be induced by the attenuated activity of the same bacteria. In other departments of medicine we find suggestive facts. The gonococcus or its toxins induce at one time an acute local suppuration, at another a chronic articular non-suppurative inflammation. The bacillus typhi can induce suppuration; it also occasionally induces a condition of joints clinically and pathologically indistinguishable from rheumatoid arthritis. Again, we know that rheumatism of the large joints has been very common in some epidemics of dysentery in Europe (Davidson). And perhaps even of greater interest from the point of view of "otosclerosis" is a reference[10] to the attenuated form of staphylococcous osteomyelitis recognised by surgeons as a distinct clinical and pathological entity. While I have just stated that in my opinion we have to deal in all cases of chronic non-suppurative middle-ear disease with a local reaction to bacterial invasion *vid* the Eustachian tube, we must remember the possibility of the co existence of an infection by the blood stream. This is probably a factor in many cases, more particularly in those in which there are clinical manifestations of disease usually designated as rheumatism or gout.

Edinburgh.

[10] Encyclopædia Medica, vol. i., Article "Diseases of Bones."

THE OPERATIVE TREATMENT OF HERNIA IN INFANTS AND YOUNG CHILDREN,

ILLUSTRATED BY 114 CONSECUTIVE CASES.[1]

BY ROBERT CAMPBELL, B.A., M.B. R.U.I., F.R.C.S. ENG.,

SURGEON TO THE BELFAST HOSPITAL FOR SICK CHILDREN.

WHEN the secretary of this society asked me to read a paper at one of our meetings I chose the subject of the treatment of hernia in infants and young children because it is one in which the majority of the members are more or less interested and because it is a condition in the operative treatment of which I have had considerable experience. In considering the question it is necessary for us to bear clearly in mind that the essential cause of hernia in children is the presence of a patent funicular process, and that, therefore, any method of treatment which aims at curing the deformity must secure the obliteration of this peritoneal pouch. Now, if we consult the text-books on surgery we find that most of them contain the statement that hernia in children is curable by a truss and that a steel spring truss covered with rubber is the most useful form to apply. If, however, we inquire a little more closely into the matter we find that it is not so simple as it at first sight appears. For instance, Mr. W. McAdam Eccles, a strong advocate of the use of trusses, in discussing the question in his monograph on hernia, admits that "the permanent closure of the processus vaginalis will be obtained in the majority of cases only after the continuous action of a steel spring truss over a period of some years" and that "the truss, carefully adjusted, must be worn by the child continually day and night, sleeping and waking, crying and peaceful." The endeavour to carry out this line of treatment will plainly involve the expenditure not only of much care and patience but also of a considerable sum of money in the purchase and repair of appliances. Truss treatment will therefore have to be confined to the children of the well-to-do. If, however, the result of the treatment were the permanent cure of the deformity we might be inclined to overlook the question of care and expense. But does the use of a truss secure this with any degree of certainty? I think not. It is true that in many cases the hernia ceases to descend but it is also true that in most cases the truss does not bring about the closure of the funicular process, but merely causes a narrowing of its neck, so that the patient goes through life with a peritoneal pouch ready at any time to receive a loop of bowel on any unusual increase of intra abdominal pressure. Coley, for instance, found on analysing a large series of cases of hernia in adults that about one-third of these had been treated for hernia in childhood by the application of a truss and there is a strongly growing belief among operating surgeons that all oblique herniæ in adults are due to the presence of a congenital sac. Against the use of trusses we may therefore fairly urge that it is a tedious, difficult, and uncertain method of treatment and that during its employment the patient is constantly running the risk of strangulation occurring. I am consequently of opinion that all herniæ in children should be treated by operation, with the possible exception of small easily controlled hernia in the children of well-to-do parents; and this opinion is based on the following reasons: (1) by operation the funicular process is completely removed and the essential cause not only of herniæ in children but also, according to recent opinion, of all oblique herniæ in adults is got rid of; (2) the time occupied in curing a hernia by operation is about a fortnight as compared with three years by the use of a truss; (3) the cure by operation is almost certain to be permanent; and (4) the risk of operative treatment is certainly not greater than the risk of death from strangulation during the use of a truss.

My advocacy of operative treatment is based on a personal experience of 114 consecutive cases of radical cure in children. This series includes both strangulated and non-strangulated cases; and I may be permitted to dwell on a few points of interest in reference to them. All the cases were inguinal. Over two-thirds of them were on the left side. 109 were males and only five were females. The age at the time of operation varied from three weeks to ten years. The two youngest patients, aged 21 and 24 days respectively, were operated on for strangulation, while the youngest child on whom I have operated apart from strangulation was six weeks old. In about nine out of every ten cases the sac was not continuous with the tunica vaginalis testis. The contents of the sac were generally small intestine; omentum was rarely seen; in only one case did the bladder present; while in ten cases the cæcum and vermiform appendix together with the lower end of the ileum were found. The strangulated cases numbered eight; all were under two years of age. The strangulation was in no case very acute but a marked tendency was observed to the formation of subserous hæmatomata between the layers of the mesentery and on the surface of the bowel. These were sometimes as large as a marble and gave rise to difficulty in reducing the gut.

I shall now turn to the operation, its risks, its complications, and its results. In children under two years, unless the hernia is very large and the walls of the inguinal canal in consequence are much stretched, a modified Mitchell Banks operation is performed. In older children and in all cases of large herniæ Bassini's operation is selected. The ligatures for the neck of the sac and for the blood-vessels are composed of catgut hardened in formalin and boiled. I have employed catgut prepared in this way for over five years and I was not aware that I was using any novel form of suture or ligature until I saw some correspondence on the subject two years ago in the *British Medical Journal*. An objection has been advanced against it that it is not sufficiently strong. I have been told by one of our gynæcologists that it cannot be relied on to secure an ovarian pedicle. But I believe that if good catgut be selected, that if it be properly prepared, and that if it be allowed to cool, and therefore to harden, after it has been boiled, it possesses sufficient strength for all ordinary purposes. I have tied the brachial, the femoral, and the popliteal arteries with it and have had no reason to repent my reliance on it. Silk I have long ceased to employ on account of its tendency gradually to make its way out months after the operation.

In the majority of the operations I have worn thin rubber gloves and I frequently, especially when demonstrating the operation to students, wear over the head a square piece of sterilised gauze split into two tails at either side, the anterior two being tied behind the neck and the posterior two being brought forwards over the mouth. This latter precaution I adopted after seeing operators and their assistants now and again during an operation in which they were much interested shed showers of dandruff into the wound, and also from the observation that some people cannot speak to you without spitting into your face. The "wipes" employed are of sterilised gauze wrung out of boiling saline solution and the dressing consists of dry sterilised gauze and wool held in position by several turns of a spica bandage on either side and also by a looped perineal bandage which includes, and exercises gentle pressure on, the scrotum. This bandaging of the scrotum I consider to be of great importance as it entirely prevents that œdema of the scrotum which is so frequently seen if a spica bandage only be employed. A piece of jaconet with a hole for the penis is fixed over the dressing with two or three turns of a bandage.

As regards after-treatment, the child is kept in the recumbent position by straps round the shoulders, the legs are lightly secured to sandbags by straps and buckles, and a urine glass is placed between the thighs, the penis being fixed in it by a plug of cotton-wool. In this connexion I might remark that it is better not to circumcise a child before operating for hernia as the long prepuce acts as a guide for the urine. After the first day the child gets his ordinary diet. The skin sutures are removed on the seventh day, the wound is covered with collodion, and in hospital cases the child returns home on the ninth or tenth day, instructions being given not to allow him to get on his feet until a fortnight has elapsed from the time of operation.

Turning now to the risk of the operation we find that it is practically *nil*. Not a single death has occurred in the whole 114 cases. The complications also have been exceedingly few. Bronchitis has been met with twice, both patients being children affected by rickets; suppuration, necessitating the opening up of the wound, occurred in one case. I might here remark that nothing militates more against a successful permanent cure than sepsis. Accumulation of blood clot in the wound requiring the removal of two sutures occurred in one case. The blood in these cases

[1] A paper read before the Ulster Medical Society on Dec. 3rd, 1903.

is venous, and its effusion is, I think, accounted for in this way. During the separation of the sac some of the smaller veins of the spermatic plexus get torn but do not at first bleed to any appreciable degree. If, however, the inguinal canal be sewn up so tightly as to constrict the veins then the blood is poured out in considerable quantity.

The results of the operation are most satisfactory. Nearly all the patients have been seen six months after operation and in only one case was there any tendency to recurrence and this simply amounted to slight bulging of the abdominal wall opposite the internal ring.

I think that the facts which I have put before you are sufficient to show that the operative treatment of hernia in infants and young children is the quickest, easiest, and most certain means of dealing with the deformity and that the use of trusses should be the exception and not the rule.

Belfast.

TUBERCULOSIS OF THE TONSILS IN CHILDREN.

BY L. KINGSFORD, M.D. EDIN., D.P.H. CANTAB.

IT is now recognised that tuberculosis of the faucial tonsils instead of being, as was formerly supposed, a disease of great rarity is one of comparative frequency. Owing to the difficulty of recognising the disease by the naked eye its diagnosis and frequency can be ascertained only by the aid of the microscope and by inoculation experiments. A considerable number of observers, amongst whom Straussmann [1] Kruckmann,[2] Schlenker,[3] Ruge,[4] and Walsham [5] with the microscope, and Dieulafoy [6] by inoculation experiments are perhaps the chief contributors, have recorded a large number of cases of tubercle of the tonsils in adults. But so far as I can ascertain only two observers, Friedmann [7] with the microscope and Latham [8] by inoculation, have confined their attention to the tonsils of children. The usual method of infection of the tonsil is by tuberculous sputum or by the blood stream secondary to tubercle in the lungs or elsewhere. The former method is more common in adults owing to the greater frequency of phthisical cavities, but in children the more usual infection is probably by the blood stream. Primary infection of the tonsils is, however, not infrequently met with in children and in such cases the tonsils show either the only evidence of tubercle in the system or else lesions of an oder date than any lesions elsewhere. The primary infection may be from infected food lodging in the crypts or from inhaled bacilli settling on the fauces and there are no means by which one can distinguish the source of the infection. In feeding experiments with animals the tonsils have sometimes become tuberculous, but as no record has been made of any similar infection by inhalation experiments it is probable that most of the primary tonsil cases are due to food. On the other hand, if inhalation tubercle occurs at all in the tonsils it would be more likely in early childhood when mouth breathing is so common.

With reference to the frequency of the disease, Friedmann, out of 145 post-mortem and operation cases, found evidence of tubercle 17 times, 12 of these being cases primary in the tonsils, whilst Latham by inoculation demonstrated the presence of tubercle bacilli in seven out of 45 operation and post-mortem cases. It has been found by Schlenker and Wright [9] that occasionally tubercle bacilli were present in the adjacent cervical lymphatics when the tonsils were free, and it seems reasonable to conclude that in these cases the bacilli may have passed through the tonsils without injuring them. Two years ago I cut sections of, and examined microscopically, the tonsils removed post mortem from 17 children of ages varying from four months to nine years. All these cases showed some enlargement of the cervical glands, which in 11 were obviously tuberculous. The tonsils were obtained from the East London Children's Hospital, Shadwell, and my best thanks are due to the then pathologist to the hospital, Dr. Clive Rivière, to whom I am indebted for the tonsils and for permission to use the post-mortem notes. I will give a brief description of the post-mortem conditions and of any microscopical changes found in the tonsils.

CASE 1.—The patient was three years of age. The post-mortem condition was as follows. There was marked caseation of the thoracic and abdominal glands with acute general miliary tuberculosis. With regard to the tonsils the right one was enlarged and scarred. Microscopically there were a few giant cells and some fibrosis but no tubercle bacilli were found. Apparently the tonsil here shared in the general infection.

CASE 2.—The patient was four years of age. The post-mortem condition was as follows. There were early caseation of the bronchial and mesenteric glands and early general miliary tuberculosis. As to the tonsils, the right one microscopically showed a few giant cells with some surrounding fibrosis. There were no tubercle bacilli. Probably here again the tonsil shared in the general infection.

CASE 3.—This patient was aged 11 months. The post-mortem condition was as follows. There was caseation of all the thoracic and some of the mesenteric glands. There were also present tuberculous broncho-pneumonia, miliary tubercles in the spleen and the kidneys, and commencing caseation of the cervical glands. With regard to the tonsils, the right one showed superficial ulceration and microscopically some giant-cell systems with some fibrosis and necrosis but no bacilli. The left tonsil showed great numbers of tubercle bacilli grouped together in some of the more superficial follicles, but no giant cells were detected. In this case the oldest lesions were those of the thoracic glands and the tonsils were probably infected by the sputum.

CASE 4.—The patient was aged eight months. The post-mortem condition was as follows. There was a chain of caseous and breaking-down glands extending from the left tonsil to the clavicle; there were also some tuberculous tumours in the cerebrum with acute general miliary tuberculosis. A careful examination of the tonsils failed to detect any trace of tubercle. The infection had evidently taken place through the pharynx and may conceivably have entered by the pharyngeal tonsil which was not examined.

CASE 5.—The patient was two years of age. The post-mortem condition was as follows. There were old caseation of the thoracic glands and general tuberculosis. The left tonsil had very large crypts and microscopically showed typical giant-cell systems. No bacilli were found. The right tonsil was hypertrophied but not tuberculous. The infection was evidently secondary to the thoracic glands, probably by the blood stream.

CASE 6.—The patient was aged one year. The post-mortem condition was as follows. There were bronchiectasis and fibrosis of both lungs and scattered caseous tubercles, slight caseation of the tracheal and mesenteric glands, early general miliary tuberculosis, and some caseation of the cervical glands. Both tonsils contained giant-cell systems and in the right one some tubercle bacilli were present in the giant cells. Here the infection was secondary, probably by the blood stream.

CASE 7.—The patient was five years of age. The post-mortem condition was as follows. There was broncho-pneumonia but there were no visible tubercle lesions in the body. Both tonsils were hypertrophied but otherwise were healthy.

CASE 8.—The patient was aged four months. The post-mortem condition was as follows. There were old tuberculosis of the left bronchial and tracheal glands, tuberculosis of the left lung, and some generalised tuberculosis. There was one firm caseous cervical gland on the left side. Both tonsils were quite healthy.

CASE 9.—The patient was aged one year. The post-mortem condition was as follows. There were old tuberculous disease of the right lung and old caseation of the tracheal and bronchial glands. All the cervical glands on the left side were enlarged, the upper ones containing miliary tubercles and those near the clavicles showing caseation. Both tonsils were healthy.

CASE 10.—The patient was aged nine years. The post-mortem condition was as follows. No pathological changes were met with beyond some engorgement of the lungs, perisplenitis, and enlarged submaxillary glands. Both tonsils

[1] Straussmann: Virchow's Archiv, Band xcvi.
[2] Kruckmann: Ibid., Band cxxxviii.
[3] Schlenker: Ibid., Band cxxxiv.
[4] Ruge: Ibid., Band cxliv., Heft 3.
[5] Walsham: Transactions of the Pathological Society of London, vol. xlix.
[6] Dieulafoy: Bulletin de l'Academie de Médecine de Paris, April, 1895.
[7] Friedmann: Beiträge zur Pathologischen Anatomie und zur Allgemeinen Pathologie, Band xxviii.
[8] Latham: THE LANCET, Dec. 22nd, 1900.
[9] Wright: New York Medical Journal, April, 1900.

were hypertrophied and showed inflammatory exudation but there was no evidence of tubercle.

CASE 11.—The patient was aged two years. The post-mortem condition was as follows. There were old caseous thoracic glands with acute general tuberculosis. Both tonsils were healthy.

CASE 12.—The patient was aged one year. The post-mortem condition was as follows. There were old tuberculous thoracic glands with acute general tuberculosis and some miliary tubercles in the right cervical glands. The left tonsil was hypertrophied and under the microscope typical giant cells were seen. Giant cells were also present in the right tonsil but no bacilli were found. The infection here was secondary to the tubercle of the thoracic glands.

CASE 13.—The patient was aged 11 months. The post-mortem condition was as follows. There was tuberculosis of the left lung which had spread from caseous left tracheal and bronchial glands; there was also acute general tuberculosis. There were caseous nodules in the submaxillary and cervical glands on both sides. Both tonsils were normal in size. The right tonsil contained a few not very typical giant cells. The left tonsil on section showed a small apparently caseous area, which under the microscope was seen to be composed of many typical giant-cell systems involving several of the follicles and a surrounding area of necrosis. Tubercle bacilli were present in some of the giant cells. Owing to the fairly advanced tuberculosis of the left tonsil and to the fact that it was also the left cervical, left tracheal, and left bronchial glands that were chiefly affected, it may possibly have been the case that the original entry was through the tonsil.

CASE 14.—The patient was two years of age. The post-mortem condition was as follows. There were old caseation of the right tracheal glands and old fibrosis with some caseation of the right cervical glands with acute miliary tuberculosis. The right tonsil was enlarged and the left was atrophied but otherwise healthy.

CASE 15.—The patient was four years of age. The post-mortem condition was as follows. There were very old caseation of the right tracheal glands and recent tubercle of the intestines and meninges. Both tonsils were quite healthy.

CASE 16.—The patient was three years of age. The post-mortem condition was as follows. There were caseous thoracic glands, especially on the right side, and cavities in both lungs, intestinal ulceration with some caseation of the mesenteric glands, and caseous masses in the brain. The cervical glands were enlarged and above the right clavicle there were some very old fibro-caseous glands. Both tonsils were healthy.

CASE 17.—The patient was aged one year. The post-mortem condition was as follows. There was caseation of the thoracic and mesenteric glands. There were cavities in the right lung, intestinal ulceration, and general tuberculosis. One cervical gland was caseating. Both tonsils were small but healthy.

Of these 17 cases, therefore, seven showed evidence of tuberculosis of the tonsils when examined microscopically but only three exhibited any naked-eye evidence of the disease. Of these three one showed ulceration, another scarring, and the third a caseous spot. Out of five cases where the tonsils were hypertrophied only two showed tubercle, the remaining tuberculous lesions being found in tonsils of normal size. Case 13 is the only one having any claims to consideration as a primary tonsillar infection and that case is very doubtful. The remaining cases were certainly all secondary to lesions elsewhere, the infection of the tonsils having been by the blood in five and in the other case probably by the sputum. In Cases 4, 8, and 14 where at the necropsy it seemed likely that the bacilli had entered originally through the tonsils no evidence of tubercle could be found in them. The parts of the tonsils which were the seats of the lesions were usually the lymphoid follicles not far from the epithelial surface, but in no instance was I able to trace bacilli in from the crypts or surface of the tonsils. With regard to the ages of the cases it will be seen that two occurred in the first year of life, two in the second, and one in each of the third, fourth, and fifth years. Goerdeler[10] has met with several under six months and Latham one at the age of three months.

It has surprised me on investigation to find how few cases of tubercle have been recorded in hypertrophied tonsils removed by operation. Purves Stewart[11] described one case in 1895 and Friedmann found one case out of 54 that he examined, but Walsham and Wright out of a large number of cases did not come across a single instance. I cut sections of the hypertrophied tonsils of two operation cases which had enlarged cervical glands but found no trace of tubercle in either case. Altogether, some 200 cases seem to have been examined microscopically and only two cases of tubercle were found. Dieulafoy was more successful by inoculation as he found tubercle in eight out of 61 cases by this method, but since he did not in his experiments exclude any tubercle bacilli which might have been present free in the crypts his results are not quite so valuable as they would otherwise have been. It seems fairly reasonable to conclude that if hypertrophied tonsils removed by operation are tuberculous the infection has entered by those tonsils, for otherwise symptoms of serious disease could hardly fail to be noticed.

The belief which has of late years steadily been gaining ground—namely, that the tonsils are one of the most important channels by which the tubercle bacilli enter the system in childhood—has many supporters, amongst them Woodhead,[12] Latham, and Aufrecht. Indeed, Aufrecht[13] goes so far as to say that this happens in practically every case of tuberculosis at any age. He contends that the bacilli pass through the tonsil to the cervical glands and from them directly into the blood stream. It seems hardly likely, however, that they would frequently pass through the tonsils without leaving behind some lesion which, by its chronicity, age, or extent (compare Case 13), would give some idea of its primary nature. In view of the small number of primary tonsil cases described compared with the total number of cases investigated I do not think we are justified in going further than to say that the tonsil is a recognised channel of infection, and the evidence seems strongly against Aufrecht's contention.

From these cases and from the investigations of others the following conclusions may reasonably be drawn: (1) that tuberculosis of the tonsils, especially in cases with tubercle elsewhere, is fairly common, though the disease is usually latent; (2) that tonsil tuberculosis may be primary and, indeed, the only seat of the disease in the system, though this is rarely the case; (3) that the usual method of infection is by the blood stream in children from an older focus elsewhere; (4) that infection also may occur by the sputum in children; (5) that when the tonsils are tuberculous the corresponding cervical glands become affected; and (6) that sometimes where it is probable that the infection entered through the tonsils they were quite healthy but the adjacent cervical glands were tuberculous.

Dover.

[10] Goerdeler, quoted by Aufrecht.

[11] Purves Stewart: Brit. Med. Jour., May, 1895.

[12] Woodhead: THE LANCET, Oct. 28th, 1894, p. 967.

[13] Aufrecht: Journal of Tuberculosis, Asheville, N.C., April, 1903.

PRELIMINARY NOTE ON

THE PROPHYLACTIC ACTION OF GARLIC AGAINST TUBERCULOUS DISEASES.

BY DR. GIULIO CAVAZZANI.

AFTER the favourable results obtained in treating pulmonary phthisis by means of garlic, which I published for the first time in 1901[1] and which were confirmed later by further statements of mine and of others,[2] I thought it might be useful to see if garlic would also have a favourable effect on the course of other tuberculous infections in animals for experimentation and, eventually, if it would demonstrate a specific action against phthisical diseases. The question is of such vital importance that, having obtained favourable results from the first researches, I think it is my duty to make them known immediately in order to provoke discussion and to stimulate research by which if my purely

[1] G. Cavazzani: L'Allium Sativum nella Cura della Tubercolosi Polmonare, Suppl. Policlinico, April, 1900.

[2] P. Piccinini: Di un Nuovo Preparato dall' Allium Sativum, Corriere Sanitario, 1901. G. Cavazzani: L'Aglio nella Cura della Tubercolosi Polmonare, Gazzetta Medica Lombarda, 1902. L. Sacchi: Nuove Osservazioni sull' Efficacia Terapeutica ecc., Milano, 1902. G. Cavazzani: L'Uso dell' Aglio nella Terapia della Tubercolosi ecc., XIIe. Congresso Medico Internazionale, Roma, 1902. G. Gennari Deplano: Tubercolosi Polmonare guarita con l'Aglina, Milano, 1903. B. Denti: Contrib. alla Cura Radicale della Tubercolosi Polmonare, Gazzetta Internazionale di Medicina, 1903.

objective statements were confirmed, a therapeutic and civil problem which is perhaps the greatest one of our age would be solved.

About the end of June, 1903, I took eight guinea-pigs, six of which had been submitted to a preventive treatment for a fortnight, each swallowing daily 0·06 gramme (one grain) of garlic juice. After having dried and powdered expectorated mucus from tuberculous patients I insufflated a small quantity of this material into the larynx of each guinea-pig. The animals so treated were kept for two days in a room impregnated with the same powder. Two guinea-pigs were kept as controls throughout the experiment. Three of the remaining six were given the above-mentioned quantity of garlic for a fortnight and the other three were given a similar amount till the end of September. I killed the animals in the first week of October.

The results of the necropsies were that the abdominal organs and the lymphatic system of the two guinea-pigs used for control were completely filled throughout with tuberculous formations in different stages of development. The microscopic examination of some tubercles proved the presence of Koch's bacillus. In the bodies of the three animals which had been treated with garlic for one month I found from 10 to 20 small tubercles, some of them in the liver and some in the spleen. The examination of the tubercles did not reveal the presence of Koch's elements, but instead it showed the presence of numerous fibres of young connective tissue. In the bodies of the other three guinea-pigs, those which had been treated with garlic up to the end of the experiment, I could find no tuberculous formations though the most minute examination was made. The small number of animals used in the experiment forbids the drawing of conclusions.

If these results should be confirmed by further researches, which I have already begun, it would be proved that garlic prevents at least guinea-pigs from contracting tuberculous diseases through breathing the germs. As this seems to be the commonest way of contracting phthisis, and if we may consider animal pathology in the same light as human, it might mean the discovery of a method for preventing consumption.

Venice.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES OF A CASE OF HÆMATURIA DUE TO THE HÆMORRHAGIC DIATHESIS.[1]

BY H. B. A. PEARSON, L.R.C.P. LOND., M.R.C.S. ENG.

THE patient, who is an unmarried female, 40 years of age, has been suffering from an attack of hæmaturia with variable losses of blood ever since Christmas, 1901. Her urine is acid in reaction; on standing it looks like beef-tea with sediment at the bottom and, as would be expected, it contains albumin. Under the microscope blood cells in large numbers and blood casts are seen. During the attack she has suffered from pain in the region of the right kidney, spasmodic in character and passing down in the direction of the right ureter to the bladder. About Christmas, 1902, pain began to be felt in the region of the left kidney, also spasmodic in character and passing down in the direction of the left ureter to the bladder, giving an impression that for the first 12 months the right kidney only was in fault. Menstruation is regular but prolonged to eight days; 20 diapers are used and become well soaked. Bright coloured blood has been vomited but there has not been any symptom to suggest either hæmoptysis (there is no cough or expectoration) or hæmatemesis due to gastric ulcer, or even a varicose condition of the throat. Bright-coloured blood has been passed from the bowel but like so many of her sex the patient suffers from constipation and the passage of hardened fæces over the mucous membrane would be sufficient to account for this. She suffers from a rash, pinkish red in colour, fading into yellow, following the lines of the lower intercostal nerves. This is probably nervous in origin and traceable to the two kidneys as it occurs on both sides. She has not had any rash of a petechial or purpuric character, neither has she suffered from epistaxis, hæmatomata, or swelling in the joints due to hæmorrhage.

The family history is as follows. The patient's paternal grandmother died suddenly at the age of 28 years from hæmorrhage. The father, son of the above, died at the age of 60 years from hæmorrhage into the brain or meninges after an illness of 24 hours' duration; he had no brothers, but his three sisters all died suddenly under the age of 30 years from hæmorrhage; one of the sisters had three children, all of whom died young from hæmorrhage. The patient, his daughter, lost one brother at the age of 15 years from heart disease and hæmorrhage; one sister, aged 24 years, died suddenly with vomiting of blood, and another sister, aged five months, bled to death. She has five sisters living, all in good health except that one of them in her confinements has ante- and post-partum hæmorrhage. She has one brother living, in good health and not liable to hæmorrhage. One of her sisters lost one boy, aged one year and eight months, one girl, aged two years and seven months, and one girl, aged five years, from hæmorrhage. Her mother's family was healthy and not liable to hæmorrhage. The patient's first attack of hæmaturia occurred in 1894; it was caused by mental worry due to the death of her father and lasted for eight months. The second attack came on in 1899, after the death of a niece, and lasted for three months. She has always suffered from vomiting on the slightest provocation. She has had measles, whooping-cough, pleurisy, and congestion of the liver. The cause of the hæmorrhage is evidently associated with some abnormal condition affecting the kidney or its hilum, as I have washed out the bladder on three different occasions with negative results.

This class of case seems to be rare. According to American records not one case was reported in ten years, but Grandidier, on the other hand, has collected references to a considerable number, of whom only a small minority reached maturity. The family history of this patient is at variance with the doctrine currently taught—namely, that the females usually transmit the diathesis to their male children. Evidently in this case the paternal grandmother transmitted it to her three daughters who all died from it under the age of 30 years, and through her son to his daughters. This family history is certainly worth studying and also being recorded. The patient herself personally does not give any clue as to what she is suffering from and is able to carry on her occupation. Hot articles of food, however, increase the hæmaturia, so she is practically limited to food taken cold. She feels better in cold than in hot weather.

New Wandsworth, S.W.

[1] The patient was shown at a meeting of the South-West London Medical Society in April, 1903. See THE LANCET of April 18th, p. 1105.

OPERATIVE TREATMENT OF A PERFORATED GASTRIC ULCER.

BY JOHN H. TONKING, M.B. LOND., L.R.C.P. LOND., M.R.C.S. ENG.,

SURGEON TO THE WEST CORNWALL MINERS', WOMEN'S, AND CHILDREN'S HOSPITAL.

THE patient whose case is now described is a single woman, 39 years of age. For about 18 months she had suffered from symptoms of gastric ulcer and usually confined herself to a special diet but with occasional lapses, one of which occurred on the evening of Oct. 21st, when she partook of potted tongue. Early on the following morning she was awakened by violent internal pain which was agonising when I saw her at 9 A.M. Her abdomen was then absolutely rigid but there was no vomiting. I thought it advisable not to give morphine but I administered one-thirtieth of a grain of nitrate of strychnine hypodermically and communicated with Dr. Frank Hichens of Redruth, who saw the patient with me at 11 A.M. and concurred in the diagnosis of perforated gastric ulcer. Morphine (a quarter of a grain) was then given and the patient was removed to the West Cornwall Miners', Women's, and Children's Hospital at Redruth, a distance of three miles. Here at 2 P.M.—i.e. within 12 hours of the perforation—Dr. W. Blackwood administered ether and I with the help of Dr. Hichens cut down on the stomach. The anterior wall midway between the lesser and the greater

curvatures was covered with inflammatory lymph and the abdomen was full of turbid serum, a large quantity of which escaped. At this stage the patient's pulse, which had been 120 per minute at first, rose to 132 and became very weak. An ounce of brandy and one and a half ounces of hot coffee were thereupon given by the rectum as well as one thirtieth of a grain of strychnine hypodermically. The perforation was about as large as a pea and was situated in the centre of an induration which from its size and thickness (it occupied about the extent of a five-shilling piece) suggested a new growth. Much difficulty was encountered in suturing the perforation, many of the silk sutures cutting out, but at last it was closed with four Lembert sutures and the whole induration was tucked in and secured by a few more Lembert sutures. The surface of the stomach was wiped with gauze swabs, as much fluid as possible was removed, a drainage-tube was inserted, and the wound was closed with silkworm gut. The patient was fed by nutrient enemata until the 28th when her bowels were moved by calomel followed by a laxative enema. On this day one drachm of whey was given by the mouth every hour and on the following day one drachm of peptonised milk was given every hour. The course of the temperature showed few special features, never falling below 97° F. and not rising above 100° except on Oct. 31st and Nov. 2nd. Hypodermic injections of one-thirtieth of a grain of strychnine and one-hundredth of a grain of digitalin were given several times a day from Oct. 31st to Nov. 5th inclusive. The convalescence, which was long and tedious, was interrupted by an attack of catheter cystitis and about Nov. 19th by an abscess bursting in the position of the drainage tube; after this, however, she improved rapidly and left the hospital as recovered on Dec. 22nd. Since the operation there has been a marked change for the better in her gastric symptoms and she is no longer troubled with the pain and pyrosis from which she formerly suffered.

Camborne, Cornwall.

A CASE OF CONCURRENT ATTACK OF URTICARIA AND MALARIAL FEVER.

By DR. GEORGE PAPAKOSTA,
GREEK ARMY MEDICAL SERVICE.

THE patient in this case was a sergeant of infantry, 26 years of age, who had always been in good health until two years previously when he suffered very much from malarial fever of an obstinate character. He was then serving in Missolonghi and for a great while he took quinine which provoked hæmaturia. Again in Corfu in 1902 he was twice attacked with the same fever, of which he was cured, and he remained well till the end of November, 1903, when for four days he felt himself much out of sorts and on the morning of Dec. 2nd he was admitted to the military hospital complaining of shivering, headache, giddiness, vomiting, and diarrhœa. His temperature was found to be 103·4° F., his tongue was furred, his liver was apparently normal, his spleen was rather enlarged, and all over his body and face there was a general red eruption of urticaria which at first gave rise to a suspicion that he might be suffering from measles. In the afternoon his temperature fell to 99·1°, the vomiting and diarrhœa ceased, the eruption disappeared, and towards night his condition became good and he perspired freely. On the morning of the 3rd he had no fever but in the afternoon he had a fresh attack of fever and the former symptoms reappeared and lasted till the following day when his temperature fell and the urticaria with the associated symptoms disappeared. He was not given quinine on account of the hæmaturia, but on the morning of the 5th he was again seized with shivering and his temperature rose to 101°. I immediately injected 15 grains of quinine. The fever continued till the next evening but without any recurrence of the eruption or of the other symptoms. The man is now fairly well although weak. Examination of his blood showed that the plasmodia of Laveran were present.

Corfu.

GLOUCESTER INFIRMARY.—At the meeting of the governors of the Gloucester Infirmary held on Dec. 31st, 1903, the chairman, Colonel Curtis Hayward, reported that of the £10,000 required for building the nurses' home and effecting improvements in the infirmary £7500 had been already received.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

LONDON HOSPITAL.

23 CONSECUTIVE CASES OF OPERATION UPON THE STOMACH.

(Under the care of Mr. C. W. MANSELL MOULLIN.)

THE following notes, for which we are indebted to Mr. C. H. Miller, are the record of 23 consecutive cases of operation upon the stomach during his term of office as house surgeon from March to November, 1903.

CASE 1.—The patient was a married woman, aged 27 years, who was admitted on March 26th. She had always enjoyed good health until 12 months before, when she began to suffer from pain in the epigastrium. It nearly always began two hours after food and was relieved by sickness. Four months before admission she vomited a large quantity of dark blood and this occurred again four weeks later. In spite of being strictly dieted and kept in bed the symptoms steadily grew worse and the patient kept losing ground. The abdomen was hollow. There was no dilatation of the stomach and there was no superficial hyperæsthesia, but there was one spot by the tip of the left tenth rib which was very tender on deep pressure. Laparotomy was performed on March 31st and the scar of an old ulcer was found on the serous coat near the pylorus. Posterior retrocolic gastro-jejunostomy was performed and a lateral anastomosis was made between the two sides of the jejunal loop, both by direct suture. The patient vomited three times in the course of the night. Small quantities of water were given by the mouth the same evening and pancreatised milk the next day. Nutrient enemata were administered for the first 24 hours and at the end of that time calomel in two grain doses every four hours up to ten grains was given. This was followed by a turpentine enema, after which the bowels acted well. The patient was given soft solids at the end of the week and left the hospital perfectly well on April 25th.

CASE 2.—The patient, a single woman, aged 28 years, was admitted on April 22nd. She gave a history of indigestion for the last ten years and of violent epigastric pain and vomiting, especially after solid food, for the last six months. The pain usually began half an hour after food and was relieved by vomiting. There was no history of hæmatemesis or of melæna. The abdomen was rigid, especially over the upper part of the right rectus. There was a point of superficial tenderness two inches above the umbilicus and one inch to the left of the middle line and of deep tenderness in the right epigastrium. When the abdomen was opened stenosis of the pylorus was found, due to the scar of an old ulcer, and posterior retrocolic gastro-jejunostomy with a lateral anastomosis was performed by direct suture as in Case 1. The after-treatment was the same. Pancreatised milk was given by the mouth after 24 hours and solid food at the end of a week. The patient was discharged well on May 25th.

CASE 3.—The patient, a man, aged 36 years, was admitted on April 23rd. He gave a history of pain in the epigastrium and vomiting for the last six years. Hæmatemesis occurred in 1900. In 1902 the abdomen was explored and a duodenal ulcer was found. This was scraped and painted with nitrate of silver but without giving the patient any relief. Vomiting continued three or four times a day. The abdomen was opened and a great mass of adhesions was found around the pylorus and the first part of the duodenum matting everything together. The same operation was performed as in the previous cases. Peptonised milk was given after 24 hours. The vomiting ceased and the patient made uninterrupted progress for three weeks, when the pain and vomiting returned for a time. He was discharged at the end of four and a half weeks and was seen again two months later in much better condition and free from all symptoms but an occasional attack of indigestion.

CASE 4.—The patient, a man, aged 44 years, was admitted on June 11th. He had suffered from indigestion as long as he could remember, the pain coming on half an hour after food. There had been two attacks of hæmatemesis in June, 1902. After this the patient was strictly dieted but without obtaining any relief. On examination the epigastrium was rigid; there was no deep tenderness but there was superficial tenderness at the back of both loins. When the abdomen was opened a number of adhesions were found on the posterior surface of the stomach around the pylorus. The same operation was performed and everything went well until the fifth day, when it was discovered that the wound in the abdominal wall (which had been sewn up with catgut boiled in xylol) had given way and that there was a large prolapse of intestine. This was replaced as soon as possible under an anæsthetic but the patient, in spite of being transfused twice, never rallied from the shock and died 36 hours later. At the post-mortem examination there was no peritonitis or leakage from the operation wounds nor was there any physical sign to account for his death.

CASE 5.—The patient, a woman, aged 33 years, was admitted on May 13th, being sent by Dr. F. J. Smith. A history of pain after food, with occasional vomiting for the last four years, was given, the symptoms steadily growing more severe. Three months before admission she had vomited half a pint of blood. On examination there were much tenderness in the epigastric and right hypochondriac regions and some superficial tenderness between the scapulæ. The abdominal muscles were contracted and the abdomen was very rigid. No scar was visible on the serous surface of the stomach. The same operation was performed. Sickness was almost continuous for four days. At the end of that time it ceased and the patient was able to take semi-solid food at once. She was discharged to a convalescent home on the twenty-second day after the operation and reported herself on her return as feeling perfectly well and quite free from pain.

CASE 6.—The patient, a man, aged 37 years, was admitted on May 14th. He gave a history of pain coming on one hour after food for the last 12 months. The pain was usually relieved by vomiting but occasionally persisted for some hours with great intensity. There was no hæmatemesis or melæna. No superficial or deep tenderness was present and no tumour could be felt. On opening the abdomen the stomach was found to be dilated and there was much thickening with some adhesions around the pylorus. The same operation was performed and the patient was discharged well on June 17th. Two months later his condition was perfectly satisfactory.

CASE 7.—The patient, a woman, aged 50 years, was admitted on June 18th and gave a history of indigestion and vomiting for many years. As a rule vomiting relieved the pain. Seven weeks before admission she was reported to have brought up 12 pints of blood and to have suffered from melæna for some days. On examination the upper part of the abdomen was rigid and there were deep tenderness and pain in the right epigastric region. There was no superficial tenderness. No tumour could be felt. On opening the abdomen an old scar was seen upon the stomach wall near the pylorus and some adhesions were found at the cardiac end. The stomach was opened and the interior was examined with a speculum to ascertain if there was any bleeding point. An anterior gastro-jejunostomy (making use of the opening through which the interior had been explored) with a lateral anastomosis between the contiguous sides of the jejunal loop was performed. This was followed by a good deal of bleeding, the patient continuing to vomit, first bright and then dark blood, until she became seriously anæmic. The bleeding stopped finally after several drachm doses of adrenalin had been given. The vomiting continued with diminishing severity for four days; but in spite of this she was able to take and to retain small quantities of peptonised milk and iced champagne and on the fifth day was given semi-solid food. After this there was no further trouble and she was discharged on July 20th able to eat anything without inconvenience.

CASE 8.—The patient, a man, aged 54 years, was admitted on June 18th. He gave a history of pain and vomiting for upwards of eight years, which had been steadily getting worse. There was no history of hæmatemesis. He had lost three stones in weight in the last twelve months. On examination of the abdomen there was no superficial tenderness but the upper segment of the right rectus was rigid and here pressure caused a good deal of pain. The stomach was distended. There was a well-marked splashing sound but no tumour and no enlarged glands could be made out. On opening the abdomen the pylorus was surrounded by adhesions and on the anterior surface was an old scar. The whole of the lesser curvature was occupied by a mass which appeared to be carcinomatous. A posterior gastro-jejunostomy with a lateral anastomosis was performed. For the first 24 hours the patient was very sick but after that he took small quantities of pancreatised milk readily. Convalescence was protracted by a severe attack of bronchitis but the patient was discharged able to eat ordinary diet without pain or sickness on July 21st and when seen a month later had continued well and had gained in weight.

CASE 9.—The patient, a man, aged 25 years, was transferred to the surgical wards by Dr. Smith on June 22nd. There was a history of vomiting several times a day for the last seven weeks and of having brought up large quantities of blood on more than one occasion. There had been but little pain and that chiefly in the left loin (the patient had evidently had morphine freely). On opening the abdomen a cicatrix was at once visible on the anterior surface of the stomach near the cardiac end of the lesser curvature, and on opening the stomach through its anterior wall a deep crater-like ulcer was found in a position corresponding with that of the scar. An anterior gastro-jejunostomy with a lateral anastomosis was performed by direct suture and as the patient was somewhat collapsed a pint of beef-tea with two ounces of brandy was injected by means of a catheter into the descending side of the loop. After the operation he was very restless and vomited frequently for the first 48 hours. As the pulse became very weak, continuous infusion of saline solution was performed on the third day, upwards of ten pints being injected. After this his condition improved rapidly. The vomiting ceased. Food was taken regularly and he was discharged from hospital on July 30th. Two months later he came back to report himself as quite strong and free from any unpleasant symptoms. He had put on more than a stone in weight.

CASE 10.—The patient, a woman, aged 23 years, was admitted on June 24th, being sent by Dr. Smith. She gave a history of hæmatemesis four years before, followed by pain and nausea after food. Four days before admission she had brought up a large quantity of blood and again on three occasions since. The motions had been black for some days. The abdomen was rather rigid but there was no superficial or deep tenderness and no tumour could be felt. After some days' feeding by enemata an operation was performed on July 7th and an old ulcer was found on the lesser curvature near the pyloric end. It could not be excised so a posterior gastro-jejunostomy was established with a lateral anastomosis as already described. The vomiting was severe for the first two days but ceased as soon as the bowels were well opened. The patient made an uninterrupted convalescence and was discharged to the country 25 days after the operation.

CASE 11.—The patient, a woman, aged 45 years, was admitted on July 4th, being sent in by Dr. A. P. Gibbons. A history of pain after food, relieved by vomiting, for many years past and of hæmatemesis and melæna two days before admission was given. The pain was chiefly in the right epigastric region, penetrating through to the back. There was no superficial or deep tenderness and no tumour or dilatation of the stomach could be made out. On opening the abdomen an old indurated chronic ulcer was found occupying the lesser curvature of the stomach. This was excised and as the shape of the stomach after the wound in its walls had been sewn up was not satisfactory a posterior gastro-jejunostomy without any lateral anastomosis was performed as well. The patient was seriously collapsed in spite of large saline enemata and was transfused (intravenous) to the amount of three and a half pints on the same evening. Strychnine and digitalin were given hypodermically as well as hot saline solution by the rectum. On the following afternoon she was able to take small quantities of pancreatised milk by the mouth and solid food at the end of the week. She was discharged on August 6th, free from pain, able to take food well, and gaining weight rapidly.

CASE 12.—The patient, a woman, aged 39 years, was transferred to the surgical wards by Dr. G. Schorstein on July 13th. A history of pain after food for many years past was given which was relieved by vomiting. Lately the amount brought up had occasionally been excessive. On examination the stomach was much dilated; splashing could

easily be obtained and there was an ill-defined induration in the lower part of the epigastric region. On opening the abdomen the transverse colon was found to be extensively adherent to the greater curvature and the pyloric end of the stomach was much contracted by scar tissue. The posterior operation was impossible so an anterior gastro-jejunostomy with a lateral anastomosis was performed. The patient was transfused (intravenous) to the extent of three pints on the same evening. There was no vomiting and after 24 hours she took pancreatised milk well. She was discharged to a convalescent home on August 8th.

CASE 13.—The patient, a woman, aged 30 years, was admitted on July 20th with a history of pain after food, which was relieved by vomiting, and of hæmatemesis and melæna on several occasions. The abdomen had been already explored at another hospital but apparently nothing had been found and the stomach had not been opened. The patient was fed on nutrient enemata for 12 days before anything was done in the hope of improving her general condition. On opening the abdomen many adhesions were found around the transverse colon and the posterior surface of the stomach. The interior of the stomach was examined with a speculum, but no ulceration was seen and the opening made for this purpose was utilised for an anterior gastro-jejunostomy. A lateral anastomosis was also made. On the same night the patient was transfused, three pints being injected into the veins, and nutrient enemata were given for 24 hours. The vomiting in this case was very persistent for four days and only ceased at the end of the week. 14 days later it began again and the loss of fluid was so great that subcutaneous transfusion to the amount of 12 pints was performed. The cause for this attack was never discovered. The temperature rose to 103° F. and remained irregular for about a fortnight and vomiting continued during the whole period once or twice a day, but it was noted that it made no difference to the patient's meals. An hour after food she would be sick without, however, bringing up anything that could be recognised as part of her last meal. Finally the vomiting ceased entirely on her going to a convalescent home and the condition of the patient improved very much.

CASE 14.—The patient, a man, aged 30 years, was admitted on August 24th. There was a history of indigestion for years past, of frequent vomiting, and of one attack of hæmatemesis and melæna six days before admission. There was marked superficial tenderness on the whole of the upper part of the abdomen, with some deep tenderness in the right epigastric region. For some time the patient was dieted but as there was no improvement an operation was performed on Oct. 10th on Mr. Mansell Moullin's return. The pylorus was found to be thickened and contracted and to be fixed by adhesions to surrounding structures. As there was not a great amount of cicatricial tissue pyloroplasty was performed and a gauze drain (as there was a certain amount of oozing) was left for 48 hours. Vomiting was severe for three days and continued until the seventh. Liquid food was given after 24 hours and convalescence after that was uninterrupted. The patient left the hospital completely relieved 25 days after the operation.

CASE 15.—The patient, a woman, aged 50 years, was transferred to the surgical wards by Dr. Schorstein on Sept. 29th. A history of severe hæmatemesis on two occasions eight years before and of continuous pain after food since was given. Vomiting was frequent, the patient sometimes bringing up a pint or more of acid fluid. There was superficial tenderness over the whole of the upper part of the abdomen and over the lumbar spines. The stomach was evidently dilated and a cylindrical hard mass could be felt midway between the umbilicus and the ensiform cartilage. On opening the abdomen the lesser curvature of the stomach, especially towards the pyloric end, was found to be extensively infiltrated with old inflammatory deposits and the scar of an old ulcer was visible near the pylorus. Posterior gastro-jejunostomy with a lateral anastomosis was performed as described already. The patient vomited almost every hour for the first two days and then the vomiting ceased. At the end of a week she was taking soft solids without discomfort and she left the hospital in a month after the operation free from pain and feeling well.

CASE 16.—The patient, a woman, aged 30 years, was admitted on Oct. 3rd with a history of indigestion with occasional hæmatemesis five years ago and of vomiting at intervals ever since, to the amount at times of many pints. Nausea after food was the rule but sickness was only occasional. Sometimes there was severe pain but this did not bear any relation to meals. The stomach was considerably dilated but no splashing could be made out. On opening the abdomen the pylorus was found to be constricted by the scar of an old ulcer and pyloroplasty was performed. This patient suffered from a good deal of flatulence at first and though when she was discharged on Oct. 31st this had disappeared there was an occasional feeling of nausea. It seemed as if the stomach, the walls of which were more or less atonic, did not empty itself so well through the enlarged pylorus as it usually does through a low gastro-jejunostomy.

CASE 17.—The patient, a woman, aged 47 years, was admitted on Oct. 10th. There was a history of epigastric pain commencing the previous Christmas and followed after some time by vomiting. The pain was continuous and not relieved by sickness. The amount brought up was very small and appeared to consist chiefly of bile. The patient was very much wasted (her weight having fallen from 13 to 7½ stones) and she was deeply under morphine on admission. On examining the abdomen the upper segments of the rectus were rigid; there were both superficial and deep tenderness in the epigastrium and the stomach resonance was increased. On opening the abdomen no examination of the viscera was made owing to the patient's condition but a posterior gastro enterostomy with a lateral anastomosis was performed as quickly as possible. Hot saline fluid and brandy were injected into the small intestine during the operation and a large enema was given immediately after. On returning to the ward she was transfused to the amount of five pints. The operation had no effect upon the vomiting which continued as before. Food was rarely brought up. As a rule the ejecta consisted chiefly of bile with watery fluid as they had before the operation. On two occasions, at some days' interval, the patient became so collapsed that continuous transfusion was necessary. Towards the end she grew maniacal, so that it was very difficult to restrain her, and she died 24 days after the operation. At the post-mortem examination there was no peritonitis and both openings were perfect and apparently able to do their work well. There was no disease of the stomach, the liver, or the intestines. Unfortunately the head was not opened.

CASE 18.—The patient, a man, aged 32 years, was admitted on Oct. 12th. In March, while stooping to put on his boots, he was seized with severe pain in the pit of the stomach and fainted. Later a large amount of blood was passed per rectum. Since then he had had two similar attacks. He had never been sick but had suffered since the first attack from epigastric pain which came on ten minutes after taking food and lasted for hours. There was no superficial or deep tenderness over the abdomen and no tumour could be felt but the stomach appeared to be a little dilated. On opening the abdomen there did not appear to be anything the matter with the stomach. A posterior gastro-jejunostomy with a lateral anastomosis was performed in the usual way. The patient was sick three times and convalesced rapidly, leaving the hospital at the end of a month able to take food well and perfectly free from pain. In this case it is probable that the ulcer was in the duodenum.

CASE 19.—The patient, a man, aged 36 years, was admitted on Oct. 19th, being sent in by Dr. Robert Hutchison. A history of abdominal pain for the last six months coming on after food and relieved by vomiting was given. He had never had hæmatemesis. The amount brought up was often very large. The stomach was very much enlarged and splashing was easily obtained. On opening the abdomen a hard fibrous ring was found surrounding the pylorus. Posterior gastro-jejunostomy with a lateral anastomosis was performed. There was no vomiting and the patient was discharged well and free from symptoms on Nov. 12th.

CASE 20.—The patient, a woman, aged 23 years, was admitted on Oct. 30th. Six years before she had been in another hospital with symptoms of gastric ulcer. She had had no symptoms for three years after. For the last two years the pain after food had been growing more and more severe and for the last few months there had been incessant vomiting. There was well-marked superficial tenderness over the area corresponding to the eighth and ninth right dorsal nerves and there was deep tenderness in the epigastrium. On opening the abdomen there was a hard puckered scar on the lesser curvature, with a portion of the great omentum firmly adherent to it and stretched like a strap across the front of the stomach. Posterior gastro-jejunostomy with a lateral anastomosis was performed. The patient was sick nine times in the first two days and suffered

from a severe attack of bronchitis. This delayed convalescence somewhat but she left the hospital on Nov. 26th free from pain and taking food well.

CASE 21.—The patient, a man, aged 36 years, was admitted on Nov. 3rd with a history of pain with occasional sickness for the last nine years, which had been growing worse of late. He had never had hæmatemesis but occasionally had brought up enormous quantities of fluid. The lower border of the stomach could be felt below the umbilicus and there was distinct splashing. On opening the abdomen the lesser curvature was obliterated by scar tissue which had dragged the pylorus quite close to the cardia. It was difficult to say if the thickening was due to malignant disease or not. A posterior gastro-jejunostomy with lateral anastomosis was performed. The patient vomited four times in the first 24 hours and three times in the second. Further progress was uneventful and he was discharged to a convalescent home on Dec. 7th in a much improved condition.

CASE 22.—The patient, a man, aged 43 years, was transferred to the surgical wards by Dr. Hutchison on Nov. 6th. A history of having vomited two quarts of blood 20 months before and of having vomited one pint and suffered from melæna one month before was given. He had suffered severely from pain after food and had found relief by making himself sick. He had lost over two stones in weight recently. On examination the stomach resonance was increased; a distinct splash was heard; there was no superficial tenderness but the upper part of the right rectus was rigid. The patient was very flabby and had suffered from chronic pleurisy. On opening the abdomen a large hard mass was found at the cardiac end of the lesser curvature and there were many enlarged glands. It was difficult to say whether it was malignant or not. A posterior gastro-jejunostomy with a lateral anastomosis was performed in the usual way. The patient convalesced rapidly and was discharged on Dec. 3rd. He still suffered from attacks of pain which, however, were relieved by food and by hot drinks. There was no nausea or vomiting.

CASE 23.—The patient, a woman, aged 36 years, was transferred to the surgical wards by Dr. F. J. Smith on Nov. 9th. There was a history of pain after food with occasional vomiting for 15 years. The symptoms had been growing more severe. There was no hæmatemesis but probably some melæna. For some time past she had lived mainly on peptonised milk. On examination the upper part of the abdomen was very rigid, especially on the left side. Deep palpation was impossible owing to the extreme tenderness. On opening the abdomen the stomach was found to be shaped like an hour glass, partly from the effects of an old ulcer on the lesser curvature and partly from the constriction caused by a band of omentum which was adherent to the scar. As the stomach could not be drawn out of the abdominal wound an anterior gastro-jejunostomy with a lateral anastomosis was performed in the usual way. The patient was sick nine times altogether in the course of the first three days. For some days after beginning to take solid food she complained of occasional slight pain but this entirely ceased after Nov. 23rd and she was discharged to a convalescent home greatly improved in condition on Dec. 5th.

Remarks by Mr. MANSELL MOULLIN.—Of the 23 cases gastro-jejunostomy was performed in 20, pyloroplasty in two, and excision of the ulcer with gastro-jejunostomy in one. The ideal operation for gastric ulcer is undoubtedly excision but it can rarely be performed either because the ulcer or the scar is too near to the pylorus or because the ulcer has attained such a size, from having been left too long, that such a proceeding would interfere with the shape of the stomach. In two of the cases the ulcer was in the duodenum, where excision can rarely be carried out.

The operation which I adopted in nearly all the cases was a posterior retrocolic gastro-jejunostomy with, in addition, a lateral anastomosis between the adjacent sides of the jejunal loop, and the union was in all cases carried out by direct suture with silk and an ordinary needle. The lateral anastomosis may prolong the operation a few minutes, certainly not more than ten; but on the other hand, it enables the patient to be fed at once in the best possible way, by introducing food directly into the bowel (and in many of these cases this is of the greatest service); it effectually prevents the possibility of such a thing as a vicious circle; and it renders the portion of the bowel which descends from the stomach through the opening in the mesocolon sufficiently rigid to check the rest of the small intestine from passing through the opening into the lesser peritoneal cavity, an accident which is said to have occurred on several occasions.

In every case the patients were given immediately before the operation one-thirtieth of a grain of strychnine with either one hundredth of a grain of digitalin or two grains of sodio-salicylate of caffeine hypodermically, and an enema of 18 ounces of black coffee with two ounces of brandy. In several the injection of strychnine and caffeine was repeated as soon as the operation was over, and in a few, owing to the state of the pulse, the same injection was given at six hours' intervals for several days. A second enema of a pint either of saline fluid or of beef-tea (it seemed to make little or no difference) with some more brandy was given as soon as the patient was back in bed; and nutrient injections of at least 12 ounces each were given at four-hour intervals for 24 hours. The patients were allowed small sips of water the same evening. Small quantities of peptonised milk were given by the mouth after 24 hours and by the fourth day nearly all could take soft solids without inconvenience. Morphine was always given the first night to relieve the pain and to secure a good night's rest, but not afterwards. Two grains of calomel were given at the end of 24 hours and repeated every four hours up to ten grains. Then a copious enema with an ounce of turpentine usually caused the bowels to act freely. The most troublesome feature was the vomiting. A small minority did not vomit at all. Most of the patients were sick for 48 or 72 hours, regardless of what was done for them. In many instances they were able to take fair quantities of milk in the intervals between the acts of sickness and to retain it. Even when food had been taken only a few minutes before the ejecta consisted chiefly of an acid brownish fluid. Shock was met by injections of strychnine and caffeine, by raising the foot of the bed and bandaging the limbs, and in severe cases by intravenous transfusion. Subcutaneous transfusion was employed with great benefit in those cases in which the loss of fluid by vomiting was excessive. The fluid used was simple saline solution. I have tried the addition of grape sugar but it seemed to cause more pain and I was not able to find that it possessed any compensatory advantage. Two patients died: one from shock following prolapse of the bowel owing to the wound in the abdominal wall giving way on the fifth day (I have not trusted to catgut boiled in xylol since); and the other at the end of three weeks from persistence of the symptoms for which the operation had been performed. It did not give any relief. In both the artificial communication was sound, without a sign of leakage, and appeared to be capable of doing all that was required of it.

With regard to the state of the patients at the time of discharge nearly all were completely relieved of their symptoms. Those in whom the stomach was much dilated and atonied still had dyspepsia at times and one or two in whom there were extensive perigastric or periduodenal adhesions continued to suffer a certain amount of pain. Neither excision of the ulcer nor gastro-jejunostomy can prevent that in such cases. Both operations work wonders but neither one nor the other, nor both together, can give absolution from the consequences of ulceration which has been allowed to progress unchecked for years. Operation, to be a success, must be performed while the condition is still curable.

GOVERNMENT CIVIL HOSPITAL, HONG-KONG.

A CASE OF DOUBLE AMPUTATION; RECOVERY.

(Under the care of Mr. E. A. R. LAING, assistant superintendent.)

A CHINESE male, aged 29 years, was admitted into hospital suffering from injuries by dynamite. Both arms were blown off and both eyes were completely destroyed. The accident had occurred 36 hours previously and the undressed wounds were in a filthy condition. Chloroform was administered by Dr. W. V. M. Koch and both arms were at once amputated simultaneously above the elbow, the left by Mr. J. Bell, superintendent, and the right by Mr. Laing. The patient stood the operation well, only requiring one hypodermic injection of strychnine. The after treatment was uneventful though there was a good deal of fever due to the condition

of the face and eyes and he was discharged six weeks after, of course totally blind.

Remarks by MR. LAING.—Double amputations not being very common it was thought worth while putting this case on record. The patient was young and a fisherman and had got over the primary shock, so everything was in his favour save the very septic condition of the wounds.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

The Staphylococcus Aureus and Rheumatic Fever.—Dermoid Tumours of the Brain.—Racemose Aneurysm of the Brain.—Pulsating Exophthalmos with Aneurysms of the Internal Carotid.—Epithelioma of the Cervix treated by Passive Immunisation Therapy of Dr. Otto Schmidt.

A MEETING of this society was held on Jan. 5th, Mr. R. J. GODLEE, the President, being in the chair.

Dr. F. J. POYNTON and Dr. W. V. SHAW brought forward a paper in continuation of recent investigations upon the Pathogenesis of Rheumatic Fever and in support of the specific nature of the disease. Their observations were founded upon clinical, pathological, bacteriological, and experimental observation and they dwelt upon the importance of this broad survey of facts in studying rheumatic fever for the avoidance of side issues. Many people spoke of rheumatic fever in a vague way as an attenuated pyæmia and the result of any infection which might cause pyæmia. Dr. Poynton and Dr. Shaw were opposed to this contention, holding that rheumatic fever had a definite clinical entity, as much, for example, as tuberculosis. They relied entirely on fatal cases for their arguments. Supposing rheumatic fever were merely an attenuated pyæmia then they believed that the staphylococcus aureus, one of the most important causes of pyæmia in man, should also be a frequent cause of rheumatic fever. This, however, did not prove to be the case. The research was then described. Firstly, it was demonstrated that the two micro organisms, the staphylococcus aureus and the diplococcus rheumaticus, could be easily distinguished from one another; secondly, in 25 fatal cases of rheumatic fever investigated by Dr. A. Paine and themselves they had not found the staphylococcus aureus on culture or in the lesions; thirdly, in cases from which they had isolated the staphylococcus aureus from human tissues the condition had not been rheumatic fever; and, fourthly, they had studied the experimental results produced by injecting pure cultures of the staphylococcus aureus into rabbits and pure cultures of the diplococcus rheumaticus into rabbits and monkeys, this latter investigation with monkeys having been already published by Dr. Shaw.[1] These micro-organisms had been attenuated and treated under similar conditions. The staphylococcus produced septicæmia or pyæmia with multiple abscesses, or no result. The diplococcus produced the manifestations of rheumatic fever or no result. They criticised the attitude of mind which demanded constant results of a regulation disease in animals in response to an infection; it did not occur in man, nor was it to be expected in animals, for the symptoms varied with the virulence of the infection and the resistance of the tissues. Lastly, they had studied the effect of mixed infections with these two micro-organisms. Rabbits and monkeys had been used. In some cases both micro-organisms were injected simultaneously; in others the diplococcus was injected first and after recovery the staphylococcus aureus. The results were these. When the injections were simultaneous death was rapid and pyæmic abscesses containing the staphylococcus were found and also arthritis and in some cases endocarditis. The staphylococcus was most easily found in the blood and the diplococcus in the joints. Both micro-organisms were demonstrated in the tissues and isolated after death. When the staphylococcic infection followed the rheumatic the disease that developed was a pyæmia or rapidly fatal septicæmia. So far as it was admissible to argue from these experiments to clinical medicine the staphylococcus aureus, far from producing in mixed infection rheumatic fever, produced a pyæmia with multiple abscesses or a rapid septicæmia. A study of a clinical case of mixed infection by Dr. Paine and Dr. Poynton was described. The patient, a boy who was suffering from cellulitis of a leg, developed arthritis and pericarditis. In spite of the cellulitis the symptoms were so very similar to rheumatic fever as to raise this point in diagnosis. After death purulent pericarditis, arthritis, and multiple abscesses were found and Dr. Paine isolated from the pus the staphylococcus aureus and a diplococcus. The final conclusions were: (1) the staphylococcus aureus was not a cause of rheumatic fever either in simple or mixed infection; and (2) rheumatic fever was not an attenuated pyæmia so far as the staphylococcus aureus was concerned. The paper was illustrated by macroscopic and microscopic preparations, drawings, lantern slides, and cultures.

[1] Journal of Pathology and Bacteriology, December, 1903.

Dr. H. M. STEWART showed a specimen of Dermoid Tumours situated at the Base of the Brain. There were two tumours; one was of the size of a hazel-nut in the situation of the pituitary body, which showed the structure of a dermoid cyst; and the other, a large tumour, was situated between the frontal lobes and consisted of the wax-like material frequently found in dermoid cysts but with no epithelial elements. The patient was a man, aged 31 years, who had had syphilis five years previously and had suffered from headache for nine months. There were no other symptoms until a few days before death when he became feverish and vomited. The condition temporarily improved, then vomiting returned, and the patient died suddenly.

Dr. E. F. BUZZARD showed a specimen of Dermoid Tumour in the Brain. The patient, a boy, aged 14 years, complained of having had fits and paroxysmal attacks of headache and vomiting during the previous 12 months and on examination he proved to have very intense optic neuritis but no definite localising signs of his intracranial lesion. The boy died and at the necropsy a large dermoid tumour was found on the orbital surface of the frontal lobes. This tumour lay between the dura mater and lepto-meninges and was non-adherent to the former but firmly attached to the latter in the region of the right Sylvian fissure. It had invaginated the brain tissue in this part and extended across the mid-line to the corresponding portion of the left hemisphere where it was not so deeply imbedded. The wall of the tumour was only definite on the right side and proved on microscopical examination to consist of definite skin tissue containing sebaceous glands and hair follicles. Outside this the pia arachnoid was much thickened and in places calcareous. The tumour itself was composed of greasy, crumbly, sebaceous material in which could be distinguished numerous hairs, epithelial débris, and fatty globules of varying size. The appearances suggested that the dermoid growth originated on the right side of the brain where the wall was best marked and that about the age of puberty the sebaceous glands took on great secreting activity with the result that the material so formed was gradually forced across the mid-line in front of the optic chiasma until it occupied the area seen at the necropsy. Apart from their great rarity, considerable interest attached to the presence of dermoid tumours in the brain owing to the obscurity of the source from which they spring and to the relation, if any, they bear to the less rare cholesteatomata. More recent writers, and in particular Bostroem, who had given very great attention to the subject, believed that every gradation could be found between a pial dermoid and a cholesteatoma and that both were epithelial in origin, thus opposing the older view which favoured the endothelial character of the latter.

Dr. J. H. DRYSDALE showed a case of Racemose Aneurysm of the Brain. The specimen was removed from a woman, aged 26 years, who had suffered from epileptic fits for 11 years. Ten days before death she had a fit and passed into a state of unconsciousness with weakness and rigidity of the left side. The coma deepened and the patient died. At the necropsy, on the right side of the brain a large area of greatly enlarged tortuous vessels filled with blood obscured the surface of the brain, filling the sulci and covering the intervening convolutions. The area extended forwards from the Rolandic fissure and was limited, though not quite strictly, to the convex surface of the brain. The right middle cerebral artery shortly after entering the Sylvian fissure was greatly and irregularly dilated, more especially as to its anterior branch which fed the large mass of vessels, one of which was almost as large as an ordinary brachial artery. Towards the anterior and inner portion there entered one of the anastomosing branches of the anterior cerebral vessel dilated to a size larger than that of an ordinary radial artery. A small quantity of effused blood was found at the base of the brain but this did not extend to the

convexity. A vertical transverse section of the hemisphere showed a wedge-shaped mass of vessels extending down into the substance of the white matter and looking on section almost like a cavernous angeioma. On microscopical examination the main mass was seen to consist of spaces of varying sizes filled with blood. The walls of the spaces varied considerably in thickness. The condition corresponded to what was known in England as a cirsoid aneurysm.

Mr. HAROLD L. BARNARD read the notes of a case of Traumatic Pulsating Exophthalmos consequent upon a bullet wound in the base of the skull. The patient, a male, aged 40 years, had shot himself in the mouth with a pistol. On admission to hospital he was conscious; there was left external ophthalmoplegia with loss of vision, pulsating exophthalmos, left facial paralysis, and discharge of blood and cerebro-spinal fluid from the left external auditory meatus. Compression of the carotid artery caused cessation of pulsation and diminution in proptosis. Mr. Barnard performed ligature of the left common carotid artery on the day of admission into hospital. The artery was ligatured in two places and divided between. For some reason the ligature slipped off the proximal cut end, giving rise to alarming hæmorrhage. Mr. Barnard described how he had reapplied the ligature, although some difficulty was experienced in finding the end of the vessel which had retracted into its sheath. The pulsation and swelling of the left eye subsided immediately upon applying the ligature but recurred slightly after a few days and then finally ceased in ten days; paralysis and blindness, however, persisted. Two months after this operation the patient developed signs of cerebral irritation; skiagrams were taken and the bullet was located in the middle fossa. A trephine opening was made in the squamous part of the left temporal bone and the bullet was found lying in the middle fossa surrounded by pus and portions of the shattered tegmen tympani; these were removed and a drain was inserted. The patient, however, developed a hernia cerebri and died two and a half months after admission into the hospital. At the post mortem examination an abscess was found in the left temporo-sphenoidal lobe unopened and independent of the collection of pus in the middle fossa which had been efficiently drained.—Mr. HUGH M. RIGBY then described a Dissection of the Base of the Skull which had been removed at the post-mortem examination; the path taken by the bullet was shown and the condition of the internal carotid artery in its entire intracranial course. Two sacculated aneurysms were found, one at the first bend of the carotid in the petrous portion of the temporal bone and another at the second bend at the posterior end of the cavernous sinus. No arterio-venous communication was found and a noticeable feature was the absence of venous engorgement in either ophthalmic veins or cavernous sinus. Mr. Rigby laid emphasis on the fact that in this case the signs and symptoms of pulsating exophthalmos were due, not to an arterio-venous communication, as is said to be usually the case, but to the presence of an aneurysm. A reference to the best known papers on this subject showed what a difference of opinion existed on this point. The question of the treatment of this condition by ligature of the common carotid artery was next discussed and defended both by the results of statistics and the result in the present case, both aneurysmal sacs having been found completely filled by firm clot.

Dr. R. N. SALAMAN exhibited the Pelvic Organs of a case of Epithelioma of the Cervix from a patient who had been treated by the so-called passive immunisation therapy of Dr. Otto Schmidt of Cologne, and whose case was referred to in the address given by Dr. H. Jossé Johnson to the Abernethian Society on Nov. 5th, 1903.[1] In this latter address attention was drawn to the occurrence of intestinal obstruction during the course of the treatment, and this together with the uræmic symptoms which ushered in death were ascribed to an undue fibrous formation, and "inconvenient cicatrisation" or overcure on the part of the diseased tissues under the curative stimulus of the serum. Microscopical preparations, both from the stricture of the colon and from the infiltrated anterior vaginal wall at the point where the ureter was constricted, showed clearly that not only was there no undue fibrosis but that the constricting agent in each case had been actively proliferating epitheliomatous deposits which were replacing the fibrous and muscular walls of both gut and ureter. The sections demonstrated also the absence of any evidence suggestive of atrophic growth, nor were there any more marked retrogressive cellular changes than could be observed in any case of epithelioma. The section of the gland from the left iliac region showed an active inflammation as well as the hyperplasia of endothelium found in cases of chronic irritation. The following were the outlines of the treatment and clinical course of the illness as very kindly supplied by Dr. Kochmann, in whose charge the case was. Oct. 22nd, 1901: Abdominal hysterectomy for fibroids; the right ovary was also removed (the cervix, since examined, was epitheliomatous). December, 1901, to January, 1902: Recurrent vaginal hæmorrhages. Feb. 12th, 1902: Curettage of new growth in the vagina. End of April, 1902: Laparotomy performed in Berlin with view to radical operation. This was abandoned and the vaginal growth was curetted and cauterised with chloride of zinc. Sept. 3rd, 1902: Further cauterisation. April 6th, 1903: Dr. Otto Schmidt injected his serum, which was repeated twice at weekly intervals. No reaction apart from pain and swelling in immediate neighbourhood of the injection was observed. End of April, 1903: For ten weeks treated by injections under the personal care of Dr. Schmidt in Cologne. July and August: Treatment by serum continued in London. August: Colotomy performed to relieve the intestinal obstruction. Serum treatment interrupted. Oct. 15th and onwards: Vomiting and uræmic symptoms. Nov. 7th: Death.

[1] THE LANCET, Nov. 14th, 1903, p. 1374.

Reviews and Notices of Books.

Traité d'Hygiène. Précédés Rapides de Recherche des Falsifications et Altérations. (*A Treatise on Hygiene. Rapid Methods of Analysis for the Detection of Adulterations.*) Par le Dr. P. SMOLENSKY (de Saint-Pétersbourg). Traduction de russe par S. BROIDO et A. ZAGUELMANN. Annotée par L. GUIRAUD, Professeur d'Hygiène à la Faculté de Médecine de Toulouse, et A. GAUTIÉ, Préparateur du Cours d'Hygiène à la Faculté de Médecine de Toulouse. Paris: G. Steinheil, éditeur. 1904. Pp. xxxii.–752. Price 20 francs.

THIS book is a French edition of a work published contemporaneously in St. Petersburg by its Russian author and must, in fact, except in so far as the translation is concerned, be considered his work. There are, it is true, some footnotes written by the editors but these are few in number. Dr. Smolensky in his preface truly remarks that every man must eat and drink and must also be affected by his surroundings and that on that account what he eats, what he drinks, and the nature of his environment are all points of importance. He proceeds to state that in order to form a just opinion as to the good or bad qualities of these material objects which concern him so closely it is neither possible nor necessary to make a detailed examination in every case. What is practically necessary is, for example, to determine whether food is good or bad, genuine or adulterated, and to do so as quickly as possible. In such a case minute analyses, which necessitate a well-fitted laboratory, and the time necessary for carrying out the experiments may both be wanting, and in the ordinary course of events in hospitals, asylums, and such places what is required is that the person responsible for the quality of the food should come to some immediate and correct decision in regard to the articles which are to be given to those under his care. The design of the book is to teach the best method by which such simple analyses are carried out—examinations which demand neither the use of costly chemical balances nor of high powers of the microscope. The author adds that almost all the necessary experiments described in the book can be carried out by means of apparatus to be found at the nearest shop devoted to chemical appliances. The aim and scope of the work are highly commendable and the reader may begin the book with the highest expectations and the hope that he has at length found the very work for which he has been pining

for years. A study of the volume itself may damp his ardour or may at least convince him that he will be unable to obtain some of the apparatus described without considerable delay. Dr. Smolensky wrote at St. Petersburg, the capital of a great country, and may be able to get Fesca's hydrostatic balance or Thörner's hydrometer at the shortest notice. The superintendent of, say, an English county lunatic asylum might indeed consider himself lucky if he could get and use such instruments whilst the patients waited for their dinner. It is at least doubtful if they would share his enthusiasm. Briefly, then, it must be confessed that the body of the book, considered from the point of view of a medical officer to a provincial asylum or "home," does not quite carry out the promise of the preface.

Considered purely on its intrinsic merits the work possesses great value and it contains an enormous mass of useful information which is not to be found in any English text-book with which we are acquainted. We must confine our remarks to a brief outline of its contents. The first 13 chapters deal with food and in these the English reader will probably find something which is new to him on the subject of horseflesh, sour cream (which is a necessary adjunct to one of the best of Russian soups), eggs, and various grains which are not used as human food in Russia. There is also an instructive disquisition on sausages. Chapters XIV. to XVII. are devoted to alcoholic beverages, including kwass, a drink which is much affected by Russian peasants but which does not usually commend itself to the English palate. The chemical composition of this beverage is given, there is a recipe for its manufacture, and the researches of Ilinsky, Stéfanovitch, Téréchtchenko, and others on various points of interest which it presents are duly set forth. Separate chapters are devoted to tea, coffee, cocoa, condiments, vinegar, to the noxious colouring matters used in food and in other ways, and, finally, to the ills which may arise from cooking utensils. The portion of the book which treats of food occupies the chief part of the volume (pp. 1 531) and the remaining part is taken up by chapters on air, water, soil, housing, lighting, and clothing (pp. 532 687). Amongst the appendices are a long bibliographical index and a table of authors quoted in the text.

The work has distinct merits as a book of reference in dietetic questions pertaining to Russia but it should be clearly understood that it is by no means a waistcoat-pocket guide to show the busy man how to determine the purity of any given article of diet at five minutes' notice. The French edition is well printed on good paper and the illustrations are clear and readily comprehensible.

Encyclopædia Medica. Vol. XIII: Ulceration to Zinc Poisoning. Edinburgh: William Green and Sons. 1903. Pp. 584.

THE volume under review contains a few really good articles; the majority of the contributions are, however, of so condensed a character that the most which can be said for them is that they are fairly complete *résumés* of the subjects which they treat. As a reference to the list of authors will show, most of the articles have been written by experts. Nobody, however, finds more difficulty in condensing his knowledge on a specific subject than the man who knows most about it. Taken as a whole the general level of excellence hitherto attained in the previous volumes of this medical encyclopædia has been maintained in the present volume. Among the articles which call for special mention must be included that on the subject of Pathological Changes in Urine, by Dr. A. E. Garrod; perhaps we should not be far wrong in saying that this is among the best of the contributions to this volume. On the other hand, the article on Uric Acid is somewhat disappointing. The author, Dr. J. A. Milroy, has clearly been embarrassed in his task by the very weight of his knowledge on this subject. Dr. T. B. Hyslop has apparently laboured under the same difficulty, for his disquisition on "Unconsciousness" is altogether too abstruse for ordinary readers who are not psychologists or alienists. Of its literary and scientific merits it is impossible to take two views but we think the article is out of place in the Encyclopædia Medica. Mrs E. Garrett Anderson and Mrs. M. A. D. Scharlieb represent the lady contributors to this volume, the former supplying an article on Vaccination and the latter an account of the Non malignant Tumours of the Uterus. The first of these two articles may be relied upon as an accurate record of the most important statistics on the subject and as a temperate and convincing exposition of the arguments for vaccination, and what is more important for re-vaccination. The gynæcological subjects included under the headings of uterus and vagina, especially from the point of view of treatment, are satisfactorily dealt with. Developmental Errors of the Uterus are described by Mr. A. E. Giles and Malignant Tumours by Mr. J. Bland-Sutton. The article on Vessels, by Dr. W. Russell, calls for special commendation. We think that the distinctions drawn by this author between atheroma and arterio-sclerosis would, if generally recognised and admitted, remove much of the ambiguity which obscures the correct understanding of the pathological processes involved in their production. The article on Visceral Pain by Dr. James Mackenzie has practical bearings and represents some excellent original work; the clinical methods of investigating the deep-seated sources of abdominal pain are described and their degrees of trustworthiness are defined. In the appendix an omission in a previous volume is made good by an excellent account of Plague, and in conclusion we may remark that in our perusal of this volume we have discovered no gross error of fact or printer's lapse, with the exception of one instance of misspelling on p. 101, where "heating" is twice spelt "healing." This evidence of careful editorship reflects great credit on the individual contributors as well as upon Dr. D. Chalmers Watson, the editor in chief.

Notes on Alcohol. By Sir WALTER GILBEY, Bart. London: Vinton and Co. 1903. Pp. 31. Price 6*d*.

IT would be absurd to say that brandy, whisky, gin, and rum have the same physiological effect because they all contain alcohol. To the person *in extremis* genuine brandy is generally administered because it is known to be a more powerful restorative than any other spirit. Further, as Sir Walter Gilbey points out in the interesting brochure before us, the flavours of the various spirits are of importance, and according to his view, which we share, any deficiency as regards flavours renders the spirits less suitable for consumption. This amounts to saying that spirits are only satisfactory when they have been well matured, for as a rule raw or fresh spirit is objectionable to the palate, but in course of time these flavours which are at the initial stage unpleasant and probably also injurious are resolved into agreeable flavours of a harmless kind. There can be no doubt that by far the greater proportion of whisky upon the market consists, if not entirely of grain alcohol, of a mixture of that spirit and malt. Grain spirit is featureless and neutral as regards taste; it is "silent," while malt spirit possesses a peculiar flavour and bouquet. Age effects no appreciable change in grain spirit at all commensurate with the effect of age upon a malt spirit. In a word, the fact of a malt spirit being drinkable is a guarantee of age, but the same does not apply to a grain spirit. Sir Walter Gilbey gives a very interesting history of the manufacture of spirit and his "Notes" contain some charming woodcuts illustrating

distillation as it was in vogue two and a half centuries ago The woodcut facing the title page shows the interior of an early distillery and was published by John Taylor at "The Ship" in St. Paul's Churchyard in 1692. The woodcut on p. 3 shows the early pot-still and upon it is printed a recipe "how to make aqua vitæ out of beer." The spirit so obtained would be practically identical with modern whisky. This interesting drawing, it may be noted, was taken from a work entitled "The Art of Distillation," by John French, a doctor of physic, and was printed in 1561. Sir Walter Gilbey then gives an instructive account of the peculiarities of spirits obtained from different materials and by different methods. The appendix is devoted to the description of the patent still "invented by Mr. Æneas Coffey of the Dock Distillery, Dublin, distiller, fifth day of August in the first year of the reign of His Majesty King William IV., 1831." As is well known this system of producing alcohol is the most economical and accordingly patent spirit or grain spirit is especially used for blending with malt spirit which cannot obviously be produced so economically in the pot-still. If only the physiological effects of alcohol are desired grain spirit answers the purpose admirably. But there is very good reason for believing that spirit containing the peculiar products of the distillation of malt, wine, or sugar duly matured is not only more acceptable to the palate but less prejudicial to the health of the consumer. Sir Walter Gilbey goes a step further when he says that "it may be worth notice that a pure malt whisky certainly promotes temperance to a degree greater than a whisky deficient in flavour can do, for the neutral tasteless spirit added by the blender to new crude whisky diminishes its coarseness and by thus disguising the potency of the spirit gives a false impression as to its age. Again, the absence of flavour induces the consumer to mix much less water with his spirit than he would if he drank a well-matured pure malt whisky." There is a deal of truth in this. Those who wish to be familiar with the modern methods of producing spirit and of the art of blending will find all the necessary information in this instructive pamphlet. The public would appear to know very little of the question as to what is an all-malt spirit, an all grape spirit, or a blended spirit, but the publication of this little work leaves no excuse for such ignorance which, as long as it exists, is calculated to be prejudicial to the consumer's interests. We maintain that the consumer should be made aware of the character of the article which he is purchasing and that it should be insisted that upon the bottles of all spirits there should be printed a clear statement accurately describing the nature of the contents.

LIBRARY TABLE.

Consider the Children. By HONNOR MORTEN. London: R. Brimley Johnson. 1904. Pp. 80. Price 1*s.* net.—This is in many ways a very sensible book. Miss Morten considers, and we quite agree with her, that there is no useful purpose served in trying to teach children who are starving and that to teach infants—i.e., children under five years of age—for five hours per diem, three of which are consecutive, is ridiculous. She also considers that the subjects taught in board schools are far too numerous, a point which we have raised over and over again. We believe that we are correct when we state that the syllabus of the London School Board contains 36 different subjects. We do not altogether agree that corporal punishment should be done away with. Corporal punishment, provided that it is administered with a birch and then only by a head teacher, and is not carried out until some little time after the commission of the offence, is an excellent method of enforcing discipline. As for the food question, the difficulties in the way of supplying school children with food are notorious. The primary responsibility for feeding children rests with the parents who have brought them into the world and anything that lessens parental responsibility is a bad thing, but, on the other hand, it is useless to try to cram knowledge into children who are badly housed and insufficiently fed. Modern "educationists" seem to have entirely forgotten the meaning of the word "*educo*." Education should properly be a developing of intellect. Plants grow from seeds which are tended and nourished; the horticulturist does not take a full grown plant, cut it up into little bits, and ram it into the seed, as information is forced into the modern child. The type of education should be that employed by Socrates as given in the dialogue of "Meno." Miss Morten concludes with a chapter upon the religious wrangle. She is of opinion that the teaching in public elementary schools should be wholly secular. Into this question we shall not enter, for it is not our province to do so. But Miss Morten shows ignorance when (pp. 77 and 79) she says that the State supports a body of clergy and buildings for the teaching of the State religion. That so clever a woman as Miss Morten should argue in this fashion is astounding when we look at her sensible remarks upon teaching and medical matters in schools in other parts of her book. The State no more pays for the clergy of the English Church than it does for the Salvation Army or for Miss Morten's last new hat. The only clergy of the English Church paid by the State are some prison chaplains and the naval and military chaplains and these are paid in the same way as Roman Catholic and Presbyterian chaplains.

Leonora. By ARNOLD BENNETT. London: Chatto and Windus. 1903. Pp. 362. Price 6*s.*—This novel is a very clever study of middle-class life in the Potteries and Leonora, the protagonist, is a remarkable sketch of a woman who "found herself" when middle aged. Mr. Bennett's views upon medical men are somewhat peculiar. John Stanway, to avoid approaching ruin, took a large dose of morphine hypodermically. The medical man tried various remedies without success and went away. He returned after a while and went away again and then we are informed that "the doctor had said that he might survive many hours." No medical man would leave a case of morphine poisoning in this casual manner. But apart from this slip the book is excellent.

Natural Physical Remedies. By H. H. HULBERT, M.R.C.S. Eng., L.R.C.P. Lond. London: Simpkin, Marshall, Hamilton, Kent, and Co., Limited. 1903. Pp. 268. Price 2*s.* 6*d.* net.—An account written in a somewhat popular fashion of the uses of light, heat, electricity, and exercise in the treatment of disease. All these are useful applications and are only too often exploited by quacks, so perhaps it is well that qualified medical men should study them.

The Examination of the Urine. By J. K. WATSON, M.D., C.M. Edin. London: The Scientific Press. Pp. 30.—This little book is, according to the author's preface, intended for nurses but students should also find it very useful. It is divided into three parts dealing respectively with the urinary apparatus, with the characteristics of the urine both in health and in disease, and with the collection and examination of the urine. Microscopical tests are omitted as being beyond the scope of the work which, so far as it goes, is simple and very clearly written.

In Lakeland Dells and Fells. By W. T. PALMER. London: Chatto and Windus. 1903. Pp. 351. Price 6*s.*—This is a book which causes an unhappy reviewer who lives and works in London to sigh over his lot. For it is a record of clean air, sunshine, clean rain, the smell of a moor on a hot day, the bleating of sheep, and the song of birds. Not that a fell shepherd's life is a sinecure like that of his

fellow of Tahiti (mentioned in the "Anti-Jacobin"), for there *are* sheep on the fells and sometimes there is snow. Mr. Palmer's book will give the town dweller a very vivid idea of the trials of a shepherd's life. Besides this Mr. Palmer talks pleasantly of foxes and rabbits, of fishing, of rock climbing and waterfowl, and many another country sight and occupation. There are portions of this little island not yet spoiled by railways, factories, and motor-cars, and long may they remain so.

Official Year-book of the Scientific and Learned Societies of Great Britain and Ireland. Twentieth annual issue. London: Charles Griffin and Co. 1903. Pp. 304.—This extremely useful work is a complement for the scientific worker to the indispensable "Whitaker." It contains full details of the constitution and working of the scientific and learned societies of these islands. The societies are divided into 15 sections. It is altogether an admirable compilation.

The Swedish System of Physical Education. By THEODORA JOHNSON. Bristol: John Wright. London: Simpkin. 1899. Pp. 79.—This little book which we only received in October, 1903, is an expansion of a paper read by Miss Johnson before the British Medical Association in 1894. Swedish exercises and massage undoubtedly have a most beneficial influence in improving nutrition and in preventing or correcting deformities when they are used under careful medical supervision. Miss Johnson does not claim impossibilities for the system and we are glad to see that she lays stress upon the dangers which may accrue from massage and exercises being allowed to drift into the hands of quacks.

The Elements of Kellgren's Manual Treatment. By EDGAR F. CYRIAX, M.D. Edin. London: John Bale, Sons, and Danielsson. 1903. Pp. 536.—Dr. Cyriax's work is founded upon a thesis which under the same title was accepted with commendation for the degree of M.D. by the University of Edinburgh in 1901. It gives a very complete account of Kellgren's methods as well as illustrative cases of various diseases in which the treatment was used. We cannot say that we are so impressed with its value in acute specific infectious diseases as Dr. Cyriax appears to be. It may improve nutrition and so do good but we have our doubts as to the wisdom of "heart shaking" or "side shaking" in typhoid fever or in diphtheria, which we understand Dr. Cyriax to recommend. Surely also to allow absolute freedom of diet to a patient suffering from typhoid fever is, to say the least of it, risky.

New Inventions.

THE "UNIQUE" GAS GRILLER.

THE method of cooking meats by broiling or grilling has undoubted dietetic advantages, assuming that it is properly carried out. It is important, however, that grilling should be rapidly effected and that a large surface of the meat should be exposed to the direct action of a high and uniform temperature in order that the nutritive juices of the meat should be retained within its substance and also that the flavour should be properly developed. It is further desirable for obvious reasons that both sides of the meat should, if possible, be simultaneously cooked, a consummation that can hardly be attained by grilling over hot coals. By using gas, however, both sides of the meat can be cooked at the same time, but then it often, if not universally, happens that the flavour of the meat is seriously affected by the improper combustion of the gas. Mr. A. E. Harris of 64, Finsbury-pavement, London, E.C., has devised a gas griller which, we think, completely overcomes the objection to the use of gas for grilling and which gives a uniformly fierce and "clean" heat that simultaneously cooks both sides of a steak, chop, sole, or sausage. The construction of the griller is quite simple and consists merely of a metal box, the vertical walls of which inside are so constructed as to form a burner of a certain design. The walls are hollow and of wave-like shape —thus ~~~~—and on the crest of the wave are holes at which the gas is burnt. The effect of this wave-like shape is that the gas in burning heats the supply of gas within the "wave" previously to combustion. It is as though the gas were passing through a series of tubes which are superheated. The air-supply is necessarily heated at the same time. The result is complete combustion and the absence of any smell due to the escape of unburnt products and the sulphur compounds are completely oxidised. The heat is thus intense, as is the case with all burners constructed, as this is, on the "regenerative" principle. The burner is "atmospheric." We have seen this grill in use and its action is very satisfactory. It cooks meat rapidly and perfectly and the flavour is excellent because the juices are retained and there is no suggestion of the flavour of partially burnt coal gas. During all the time the outside air is free to play over the meat as with roasting. It is well known that in order to secure the perfect combustion of coal gas both the air- and gas-supply should be heated. Meat cooked by this griller is not diminished in size or "dried up" but is plump, juicy, and appetising. An ordinary steak is thoroughly cooked in five minutes and it is stated that 72 steaks can be perfectly grilled in the course of one hour at a maximum cost of 1½*d*. It is proposed to construct large grills upon this principle for hotels and restaurants. It need hardly be added that the adoption of this griller on a large scale would save the production of volumes of smoke now discharged into the air from the chimneys of hotel and restaurant kitchens.

THE "FACILE" FOOD WARMER.

THIS is a very simple device by which food may be kept warm by means of an ordinary night-light. It consists of a tin stand, semi-pyramidal in shape when erect, provided with a lower platform for the night-light and an upper platform with perforations on which to place the food container. The apparatus when ready for use is about three inches high. The supports at one end may be detached while at the other end is a hinge so that the parts collapse to a flat plate which may be packed easily for travelling purposes. The food warmer may be safely placed by the bedside when a night-light is used and thus it will prove very useful in the nursery or sick room. The specimen which we have described was sent to us by the Safety Letter Box Co., of 81, Denmark-hill, London, S.E., and the inventor is Miss Bishop.

AN ELECTRIC FOOT OR BODY WARMER.

THE electric current promises to be adapted to all sorts of domestic comforts; it is only a matter of economical production, but it must be admitted that in many applications electricity is at present expensive. There are one or two points about an electric foot or body warmer recently brought to our notice which recommend it. In the first place it is stated that it does not cost more than a penny for six hours' use; in the second it is so constructed that the heat is not allowed to accumulate but to disperse slowly, whilst at the same time the warmer itself keeps comfortably hot; and thirdly the apparatus may be attached to any system of supply, whether it is intermittent or continuous or at a pressure within the limits of the ordinary domestic lighting supply. With this warmer all that is necessary to be done is to place within it an eight candle power lamp identical with that used in the house. The wire "lead" terminates in an adaptor which fits into the electric light socket in the same way as a lamp, by means of a bayonet catch. The switch is then available for turning the current on to the warmer. The warmer thus serves in place of the hot-water bottle or the bedpan for warming the bed or it may be used as a foot warmer or for warming garments. The warmer, which is of the shape of a stone foot warmer, is inclosed in flannel. We found that on wrapping the foot warmer in an overcoat or on placing it in the bed while warmth is steadily maintained it never approaches a point of risk. The eight candle-power lamp is exactly suited to the requirement. The price of this warmer is 21*s.* nickel-plated, 17*s.* 6*d.* in brass or copper, and 15*s.* in tin, and the manufacturer is Mr. W. Back, 166, Queen's-road, Bayswater, London, W.

SURGEONS WHO HAVE WON THE VICTORIA CROSS.

COMPILED BY G. F. BLAKE.
REGISTRAR OF THE ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE Victoria Cross was instituted by Royal Warrant, Jan. 29th, 1856. It is provided that not rank, or long service, or wounds, or any other circumstances whatever, save the merit of conspicuous bravery or devotion to the country in the presence of the enemy, shall be held to establish a sufficient claim to the honour. Since its institution less than 500 crosses have been conferred, 26 of which have been awarded to surgeons. The following notes show how each of these 26 distinguished members of the medical profession obtained the coveted decoration:—

William Babtie, Major, now Lieutenant-Colonel, R.A.M.C., C.M.G., M.B. Glasg. 1880, L.R.C.P. and S. Edin. 1880, was awarded the Victoria Cross for going out and attending wounded exposed to heavy fire and afterwards going out, also under heavy fire, and bringing in Lieutenant Roberts who was lying wounded on the veldt. "Colenso, South Africa," 1899.

William Brad-haw (deceased), Assistant Surgeon 90th Regiment, L.R.C.S. Irel. 1854, was awarded the Victoria Cross for gallantly defending the wounded left under his charge and was himself wounded. "Lucknow, Indian Mutiny," 1857.

Thomas Joseph Crean, Surgeon-Captain 1st Imperial Light Horse, now Captain R.A.M.C., L.R.C.P. & S. Irel. 1895, Hon. F.R.C.S. Irel. 1901, was awarded the Victoria Cross for conspicuous gallantry in continuing to attend wounded in the firing line under heavy fire at 150 yards range when he was himself wounded, and only desisted when he was hit a second time. "Tygerskloof, South Africa," 1901.

John Crimmin, Surgeon, now Lieutenant-Colonel, I.M.S., C.I.E., L.R.C.P. Irel. 1882, L.R.C.S. Irel. 1879, was awarded the Victoria Cross for attending wounded actually within the enemy's fighting line, and had at one time to leave his charge and to fight hand to hand against heavy odds, killing one man with his sword. When help arrived the enemy were driven off. "Burma, India," 1889.

Campbell Millis Douglas, Assistant Surgeon 24th Regiment, now Brigade-Surgeon A.M.D. (retired), M.D. Edin. 1861, L.R.C.S. Edin. 1861, Silver Medal Royal Humane Society for saving life at sea, was awarded the Victoria Cross for his gallant and daring manner in taking boat through dangerous sea and rescuing 17 officers and soldiers. "Little Andaman Island," 1867.

Henry Edward Manning Douglas, Lieutenant R.A.M.C., D.S.O., L.R.C.P. Edin. 1898, L.F.P. & S. Glasg. 1898, was awarded the Victoria Cross for having shown great gallantry and devotion under severe fire in the open in attending a wounded officer and on the same day attending another wounded officer and men under a fearful fire. "Magersfontein, South Africa," 1899.

Thomas Egerton Hale, Assistant Surgeon 7th Regiment, now Surgeon-Major A.M.D. (retired), J.P., M.D. St. And. 1856, M.R.C.S. Eng. 1854, was awarded the Victoria Cross for remaining with a wounded officer and bringing in wounded under fire. "Sebastopol, Crimean War," 1855.

Edmund Baron Hartley, Surgeon-Major Cape Mounted Rifles, now Surgeon-Lieutenant-Colonel, Colonial Forces, Cape Colony, C.M.G., L.R.C.P. Edin. 1880, M.R.C.S. Eng. 1874, was awarded the Victoria Cross for attending and carrying wounded to a place of safety under fire. "Basutoland, South Africa," 1879.

Anthony Dickson Home, Surgeon 90th Regiment, afterwards Surgeon-General, A.M.D. (retired), K.C.B., M.D. St. And. 1847, was awarded the Victoria Cross for persevering bravery and admirable conduct in defending the wounded left under his charge. "Lucknow, Indian Mutiny," 1857.

Neville Reginald Howse, Captain New South Wales Medical Staff Corps, L.R.C.P. Lond. 1887, M. 1886, F. 1897, R.C.S. Eng., was awarded the Victoria Cross for going out under a heavy cross fire and carrying a wounded man to a place of safety. "Vredefort, South Africa," 1900.

Edgar Thomas Inkson, Lieutenant, now Captain, R.A.M.C., L.R.C.P. Lond. 1898, M.R.C.S. Eng. 1898, was awarded the Victoria Cross for having carried a wounded officer over exposed ground to a place of safety under heavy fire. "Tugela, South Africa," 1900.

Joseph Jee (deceased), Surgeon 78th Regiment, afterwards Deputy Inspector General A.M.D., C.B., M.R.C.S. Eng. 1841, winner of the Grand Prix du Casino, Monte Carlo, 1873, was awarded the Victoria Cross for gallantry in attending, protecting, and saving a number of wounded. "Lucknow, Indian Mutiny," 1857.

Ferdinand Simeon Le Quesne, Surgeon A.M.D., now Major R.A.M.C., L.R.C.P. Lond. 1886, M.R.C.S. Eng. 1886, L.S.A. Lond. 1885, was awarded the Victoria Cross for attending a wounded officer in front of the enemy's loopholes and attending another officer under heavy fire when he was himself wounded. "Burma, India," 1889.

Owen Edward Pennefather Lloyd, Major A.M.D., now Lieutenant-Colonel R.A.M.C., L.R.C.P. Edin. 1877, L.R.C.S. Edin. 1877, was awarded the Victoria Cross for conspicuous bravery in going to rescue a wounded officer under heavy fire. "Kachin Expedition, India," 1894.

John Frederick McCrea (deceased), Surgeon Cape Mounted Police, M.R.C.S. Eng. 1878, L.R.C.P. Edin. 1878, was awarded the Victoria Cross for attending wounded under heavy fire, although himself wounded, and carrying wounded to a place of safety under fire. "Transvaal War, South Africa," 1881.

Valentine Munbee McMaster (deceased), Assistant Surgeon 78th Regiment, M.R.C.S. Edin. 1855, M.D. Univ. Edin. 1860, was awarded the Victoria Cross for attending to, and bringing in, wounded under a heavy fire and was himself wounded. "Lucknow, Indian Mutiny," 1857.

William Job Maillard (deceased), Staff-Surgeon Royal Navy, M.B. 1888, M.D. 1891 Lond. Univ., M.R.C.P. Lond. 1888, M.R.C.S. Eng. 1888, was awarded the Victoria Cross for going through a perfect hail of bullets and endeavouring to rescue a wounded seaman of H.M.S. *Hazard*. "Island of Crete," 1898.

William George Nicholas Manley (deceased), Assistant Surgeon, Royal Artillery, afterwards Surgeon General A.M.D., C.B., M.R.C.S. Eng. 1852, Bronze Medal of Royal Humane Society for saving life at sea, was awarded the Victoria Cross for risking his life to save Commander Hay, R.N. "Maori War, New Zealand," 1864.

Arthur Martin-Leake, Surgeon-Captain South African Constabulary, L.R.C.P. Lond. 1898, M.R.C.S. Eng. 1898, was awarded the Victoria Cross for attending a wounded man under a heavy fire at 100 yards' range and assisting a wounded officer to a place of safety when he was himself shot three times. "Vlakfontein, South Africa," 1901.

James Mouat (deceased), Surgeon 6th Inniskilling Dragoons, afterwards Surgeon-General, K.C.B., Knight of the Legion of Honour, M. 1837, F. 1852, R.C.S. Eng., was awarded the Victoria Cross for rescuing wounded officer from exposed situation and binding his wounds in the presence of the enemy. "Balaklava, Crimean War," 1854.

William Henry Snyder Nickerson, Lieutenant, now Captain, R.A.M.C., M.B., B.Ch. 1896, Victoria University, Manchester, was awarded the Victoria Cross for going out and attending wounded man under a heavy rifle and shell fire, dressing his wounds and remaining with him till he was removed to a place of safety. "Wakkerstroom, South Africa," 1900.

Herbert Taylor Reade (deceased), Surgeon 61st Regiment, afterwards Surgeon-General A.M.D., C.B., M.R.C.S. Eng. 1849, was awarded the Victoria Cross for gallantry in dislodging with small force party of rebels firing on wounded. "Delhi, Indian Mutiny," 1857.

James Henry Reynolds, Surgeon-Major, now Lieutenant-Colonel, A.M.D. (retired), M.B., M.Ch. Univ. Durh. 1867, Hon. F.R.C.P. Irel. 1879, was awarded the Victoria Cross for conspicuous bravery in attending the wounded under fire and defence of hospital. "Rorke's Drift, Zululand, South Africa," 1879.

Henry Thomas Sylvester, Assistant Surgeon 23rd Regiment (retired), Knight of the Legion of Honour, M.D. Aberdeen 1855, L.R.C.S. Edin. 1853, L.S.A. 1869, was awarded the Victoria Cross for going out to a wounded officer and attending wounded under heavy fire. "Sebastopol, Crimean War," 1855.

William Temple, Assistant Surgeon Royal Artillery, now Brigade Surgeon A.M.D. (retired), M.B. Univ. Dub. 1858, L.R.C.S. Irel. 1858, was awarded the Victoria Cross for gallant conduct and devotion in assisting wounded under heavy fire. "Maori War, New Zealand," 1864.

Harry Frederick Whitchurch, Surgeon-Captain, now Major, I.M.S., L.R.C.P. Lond. 1887, M.R.C.S. Eng. 1887, was awarded the Victoria Cross for rescuing a wounded officer when the troops with which he was fell back, having to proceed over a mile under the enemy's fire. "Chitral, India," 1895.

THE LANCET.

LONDON: SATURDAY, JANUARY 9, 1904.

The Dental Requirements of the Army.

THE recent war in South Africa brought vividly before the military authorities the importance of insuring that the teeth of soldiers on active service should be in an efficient condition. The question has attracted for many years the attention of the dental profession and the notice of the War Office was drawn to it by the British Dental Association and others in the years previous to the outbreak of war. At the commencement, too, of the campaign dental services were volunteered but not accepted, and it was not until the subject was brought forcibly home by the large number of men invalided on account of dental disease that a move was made by the appointment of 12 civil dental surgeons—a number totally inadequate for the forces in the field.

The question of the dental requirements of the army is, we believe, engaging the notice of the War Office and it is to be hoped that some workable scheme will be forthcoming. The subject is, however, beset with many difficulties and there are many issues to be considered. In the first place it is essential that those responsible for any scheme should have some knowledge of the amount of time and physical exertion which dental operations entail, and some idea should be obtained of the number of hours of work likely to be required to keep the teeth of a definite number of men in order. For this purpose statistics might be obtained from those trained in dental surgery. Without a definite basis to work upon it will be impossible to formulate a really efficient scheme. Again, the scope of services to be rendered must be defined. A very large majority of the recruits require a considerable amount of dental attention. At the present time nothing is done to place their mouths in order and to keep them in a state of efficiency, with the result that, although the soldiers on enlistment may have a sufficient masticating apparatus, in the course of time it is likely to be impaired considerably by the ravages of dental caries. This condition of affairs, as the recent campaign showed, proved to be a serious waste in the fighting strength of the army and from a commercial aspect a serious monetary loss. A large amount of this loss could have been avoided by insuring that the mouths of all men on active service were in a condition capable of dealing with their rations and were also free from all sources of sepsis; the removal alone of septic roots and teeth previously to active service would have avoided a large amount of dental sickness. The experience of dental practitioners is that men and officers who served during the campaign and who had their teeth placed in proper order suffered little from dental troubles. There can therefore be little doubt that the efficiency of the army would be considerably enhanced by insuring that the mouths of all soldiers were in thorough order. A man on being accepted as a recruit should, during his period of training at the depôt, have his mouth properly treated and should be given instruction in dental hygiene. If this is done it will require but a comparatively small expenditure of time to keep his teeth in a proper condition, providing that he receives attention at regular periods and shows himself willing to be helped.

Roughly speaking 50,000 recruits are enlisted each year, and as it is more than possible that at least two hours' work would be necessary for each recruit the services of between 60 and 70 dental surgeons would be required for this branch of the work alone. These figures are probably well within the mark, and the only way in which a trustworthy estimate of the time and services required can be obtained is by a thorough investigation of the subject. In considering the means for carrying out the dental requirements of the army there is the possible difficulty of obtaining a sufficient number of qualified dental surgeons. Work involving elaborate technique would, however, not be called for, and the main operative treatment would consist in the removal of teeth and the insertion of plastic fillings. This work could be to some extent carried out, it is suggested, by the Royal Army Medical Corps if officers entering that service were compelled to pass through a course of instruction at one of the dental hospitals; while for the treatment of the recruits and special cases qualified dental surgeons could be appointed to the different military centres. But we are not prepared offhand to advocate any increase of the multifarious duties of the Royal Army Medical Corps. Nor do we suppose that the department will consider the present a favourable season for making these officers compulsory dental students. The question requires careful thought and we cannot help feeling that in the elaboration of any scheme the advice of a practitioner of dental surgery would probably prove of considerable assistance to the authorities.

The Scottish Poor-law Medical Service.

ON many occasions attention has been called in our columns to a serious anomaly peculiar to the Scottish Poor-law service—namely, the insecurity of the medical men in their tenure of office—and a case of which mention was made in THE LANCET of Dec. 19th, 1903, p. 1758, induces us to return to the subject. It is well known that in England and Ireland the appointments of Poor law medical officers are made by the local bodies—i.e., parish councils or boards of guardians—but the appointments once confirmed are not terminable at the instance of these boards or councils without the express sanction of the Local Government Board in either London or Dublin. In Scotland, on the other hand, the position of affairs is quite different, for a Poor-law medical officer holds office entirely at the discretion of the parish council or board of guardians which has a legal right to dismiss him of its own initiative without alleging any offence on his part or otherwise justifying its action. To a certain order

of mind the simplicity of this arrangement might seem to be a recommendation, but a moment's reflection would suggest that an authority so extensive might sometimes degenerate into an arbitrary despotism, and experience shows that this is so. The most recent victim of this policy is Dr. J. F. D. MACARA of Durness in Sutherlandshire, who has been medical officer of that parish for several years. It is easy to understand that he may not have been a *persona gratissima* in the eyes of his late employers, for he has been largely instrumental in making known the grievances of the Poor-law medical service, and in THE LANCET of Dec. 23rd, 1899, p. 1776, we published a letter from him in favour of the movement for granting a stated annual period of holidays, the locum-tenent to be paid by the parish. This object is a very reasonable one, for a medical practitioner holding such an appointment cannot absent himself without providing a substitute and in the sparsely populated districts of northern Scotland no one in a position to take his place might be accessible within a radius of many miles. The crowning achievement of a parish council bent on harassing a medical officer was perhaps that which came to pass, or at least had its origin, in South Uist, one of the many islands on the west coast of Scotland. Mr. J. LAMONT, the Poor-law medical officer of that island, was dismissed from his appointment in July, 1898, for some reason to which no prominence was given but which apparently arose out of a dispute as to the closing of a school during the prevalence of an epidemic. In the following September he was arrested at night in his mother's house in Glasgow, lodged in prison for two days, conveyed under a police escort to South Uist, and eventually sent for trial to the county town, Inverness, where the jury acquitted him. The charge brought against him was that after vaccinating infants at places very remote from his residence he did not make a second journey to inspect the vesicle but gave certificates of successful vaccination on information supplied by some intelligent inhabitant of the locality in question. The accused had no difficulty in showing that his offence was venial and that the same system was followed by other vaccinators whose patients were scattered over wide areas. Copious details of Mr. LAMONT'S case and a report of the debate in the House of Commons to which it gave rise are to be found in THE LANCET of 1899. The obvious moral is that legislation is urgently required investing the Local Government Board of Scotland with powers of intervention and veto in the dismissal of Poor-law medical officers so that there may be uniformity of procedure in the three divisions of the kingdom.

Housing of the Poor in Dublin.

THE question of the proper housing of the working classes, which has for several years been prominent among the problems of municipal government in London and in many English provincial cities, has reached its most acute stage in Dublin. Readers of THE LANCET, recalling the communications of our Special Sanitary Commissioner as well as our weekly letter from Dublin, will not be surprised to learn that an unfortunate condition of things exists in the Irish capital. We have before us an official report of a conference on the subject between the Parliamentary representatives of the county and city of Dublin, the corporation of Dublin, and the Dublin Trades Council, which discloses conditions to which it is probable no parallel can be found elsewhere and that call urgently for reform in the interests alike of health and of decency. In a population of 292,000 persons, in which there were 59,263 families containing an average of 4·6 persons in each, it was found in 1901 that 21,702 of these families occupied only a single room and that 13,620 occupied only two rooms; in other words, 162,481 persons lived, ate, and slept in 48,942 rooms, and the report asserts, we hope with absolute accuracy, that "no such state of things, or anything approaching to it, exists in any other town in the United Kingdom." Endeavours have been made, by the corporation of Dublin, by the large-minded charity of Lord IVEAGH and of Messrs. ARTHUR GUINNESS and Co., and by the energy of the Great Southern and Western Railway Company and of some building companies established for the purpose, to meet the requirements of the case, but possibly because the evils described have been suffered to accumulate for a long period these endeavours have not yet been able to overtake or to cope with them. It is manifest that a large population housed in the manner described must be a standing menace not only to the health of the community but also to law and order, and it would be difficult to conceive the existence of any "injustice to Ireland" of a more flagrant character than that of suffering such an abuse to continue unrelieved. The city contains a large number of insanitary areas and some absolutely derelict spaces, all of which might be covered with new dwellings; but which, even if they were entirely utilised, would soon be insufficient to meet the ever-increasing demands of the population. The committee appointed to inquire into the subject is unanimously of opinion that it is necessary to build cottages or self-contained dwellings on the outskirts of the city and to provide cheap means of transit to and fro for workers. In order that this may be done it asks for a simplification of the laws relating to the acquisition of land and for a considerable prolongation of the time over which the repayment of municipal loans for building purposes may be extended, expedients to which it has already been found necessary to have recourse in England. The extension of the repayment of loans over long periods is a course by no means to be adopted without grave consideration, since it unquestionably opens the door to many abuses in municipal government, but there are many conditions, and those now existing in Dublin appear to be examples of them, in which it would clearly be the lesser of two evils. The city is not rich enough to attempt the speedy removal of the consequences of accumulated neglect unless ample time can be given for the repayment of the principal sums required and for some recoupment from the rents of the new buildings which must be erected.

In view of the condition of overcrowding disclosed by the report it is not remarkable that the annual death rate per 1000 living during the third quarter of 1903 was 18·9 in Dublin, as against 14·1 in London, 14·6 in Edinburgh, 16·2 in Glasgow, and 17·3 in Belfast. In round numbers this means that 1460 people die every year in Dublin who, if they had been placed in the better sanitary conditions of London, would have remained alive. In dealing with the typhoid epidemics at Belfast[1] we clearly

[1] See THE LANCET, Nov. 19th and 26th and Dec. 10th and 31st, 1898.

showed that the insalubrious conditions of that city could well place it next to Dublin and above Glasgow in its death-rate. Even among the better classes the standard of domestic cleanliness and comfort is not so high in Ireland as in England; and the toleration of poultry and of "the gintleman that pays the rint" and his family in the cabins of the rural peasantry is not entirely without parallel in the general untidiness of many homes in which the pressure of poverty cannot be pleaded as an excuse for their condition. Even with a people naturally cleanly in their habits overcrowding would mean dirt, and dirt would mean disease; and where it unfortunately happens that cleanliness is very little regarded the consequences are bound to follow in a still more pronounced degree. The state of things described by the report to which we refer must to a great extent neutralise the best efforts of sanitary reformers in Dublin; and is amply sufficient to occasion, not only by reason of epidemic prevalences, but also by its effect in lowering the general standard of health among the population, the condition of the death-rate which the Registrar-General records. It is unquestionably high time that the subject received the attention of the Legislature. It is not one which is likely to commend itself to demagogues, and there is therefore all the more reason why the necessary reforms should be urged forward by the voices of the medical profession, and by those of all educated people who desire at once to ameliorate the condition of their poorer neighbours and to remove a source of manifest danger alike to the physical and the moral health of the community.

It is hardly possible without the guidance of complete local knowledge to form an opinion as to the character and the sufficiency of the methods suggested for dealing with the evils disclosed by the report; but in December, 1899, and January, 1900, we published a series of articles setting forth the insanitary conditions of Dublin and explaining how so many "derelict" houses and spaces have come into existence. A few years ago streets or spaces which might be described as "derelict" were to be seen here and there in London and it was usually said or imagined that they were "in Chancery," but the report tells us that, as might have been expected, some of the overcrowding of Dublin is due to the falling to pieces of old habitations which it seems to be nobody's business to rebuild or to repair. Since 1879 more than 3000 houses have been "detenanted" and closed, and although many have been rebuilt or improved many more are either in ruins or have disappeared. At present there are in Dublin 302 derelict houses, 148 houses in complete ruin, and derelict spaces on which 82 houses formerly stood—in all, 532 houses. Some of the derelict houses and ruins are the property of the corporation and with regard to these, we presume, nothing but the want of available means could prevent the spaces which they occupy from being utilised. It is quite conceivable that, especially with the Irish love of litigation, any attempt to use or to improve derelict property might call forth numerous claimants and might entail considerable and utterly useless expense. The extension to Ireland of some of the provisions of the English law, as suggested in the report, would suffice to overcome many impediments of which we in this country have had practical experience; and it surely would not be impossible to devise some simple method by which the rights of *bonâ fide* owners of the soil might be protected, or compulsorily acquired at equitable rates by the corporation or by a building company, in cases where pieces of land are unoccupied or are covered only by ruinous remains. The Local Government Board, or some kindred body, might easily be empowered to prevent unjust confiscation; but it is manifest that no scruples of a merely red-tape description should be suffered to prevent the abatement of a public nuisance or the reform of conditions disgraceful to civilisation and injurious to the welfare of the public.

Annotations.

"Ne quid nimis."

RADIO-ACTIVITY OF THE ANIMATE AS WELL AS THE INANIMATE.

IT is impossible to review the exciting and intensely interesting situation to which the discovery of radio-active emanations has brought scientific thought without feelings of the deepest wonder. Almost every day sees discovery added to discovery and phenomena are disclosed which threaten to render obsolete the use of the word occult. Facts are rapidly being presented before time has been given to formulate a theory which will explain them and the faculty of imagination was never so active in attempting to break down the barrier between the psychical and the tangible. We no sooner recover from the excitement of the discovery of the x rays and the remarkable phenomena related to them, than the atom is announced to be after all not the finitely small but a tiny system swarming with electrons. The discovery of radium and its remarkable properties comes, so to speak, in the nick of time to clinch the argument and for the first time scientific men are able to say, "We have actually touched the borderland where matter and force seem to merge into each other." Barely a moment is left to ponder over this stupendous revelation before it is announced that the transmutation of one element into another has been ascertained for certain to take place. In the meantime investigation apparently in an entirely different field has brought some French chemists to state positively that an imprint of the dead Christ, revealing the manner of his death and passion, is apparent upon the Holy Shroud of Turin. Their explanations appeared to be crude and referred to the action of emanations from the dead body upon the embalming materials of the sheet. The outline of the dead Christ upon the shroud was regarded as a "vaporographic print." In these days of the announcement of new active rays, emanations, vapours, etheric vibrations, electrons, or whatever we may choose to call them, the explanation may be different and more exact. In several communications to the Académie des Sciences M. Blondlot, for example, has lately described what appears to be yet a new grouping of active rays for which he suggests the designation "n" rays. These rays have the property of augmenting the brightness of a phosphorescent substance such as platino-cyanide of barium the luminosity of which has been appropriately adjusted by exposure to a salt of radium. They are able to traverse metals and other opaque bodies and appear to be given off by most sources of light and heat, including the sun. Further, they are able to be brought to a focus by means of a lens of glass or by one consisting of an aluminium shell containing a solution of salt. While studying Blondlot's rays M. Aug. Charpentier observed that emanations of a similar character were emitted by the human body and

that the effect produced upon a sensitive screen placed at a little distance was proportional to the physiological activity of the part, being greatest in the case of muscle and nerve. By using a small screen and noting the variation in luminosity which it exhibited he found it possible to map out the area of the heart and to trace the course of nerves beneath the skin. That the phenomena were not due to heat simply was shown by interposing screens of aluminium or glass, which did not affect the result, nor could the rays be supposed to have been previously absorbed from some external source since the manifestations were obtainable equally well after the part of the body under observation had been kept in darkness for nine hours. As yet it does not appear that this method of investigation has more than a theoretical value, but the same might have been said of the early stages of almost any application of scientific methods and it is possible that the researches of M. Charpentier may have far-reaching consequences. In an annotation in THE LANCET of April 26th, 1902, p. 1216, we hazarded the question, "Does the human body possess properties akin to radio-activity?" The researches of M. Charpentier would appear to indicate clearly that it does.

THE ARMY MEDICAL SERVICE: PRESENT AND FUTURE.

NOW that the Report of the Royal Commission on the War in South Africa with its accompanying minutes of evidence has been widely read and discussed it may not be without interest to our readers if we call their attention to some remarks which appeared in our Annus Medicus for 1900. Speaking of the war then going on in South Africa we referred to some of the lessons to be learned from our experience in that campaign in regard to the medical services of the present and the future. "It is impossible," we said, "for financial reasons to maintain in time of peace a Royal Army Medical Corps at a strength and on a scale adequate for the requirements of a big war. That the corps as it exists at present must be largely increased and that its officers must have increased facilities for professional study and training is obvious. The way in which this can be best accomplished must be considered hereafter. A radical and comprehensive reorganisation will be necessary for the purpose. But some scheme in the nature of the German system of keeping the civil medical element in touch with the army will also have to be introduced, as well as a method of welding all branches of the medical service—militia and volunteers—with the regulars and of giving all their members some training in military medical duties. The war in South Africa has opened a new chapter in the history of the British Empire by closely cementing the colonies with the motherland; and we have now to frame an organisation by which the whole strength of the medical element at our disposal can be made available in war. The aim in our future wars will rather have to be to take the hospital to the wounded than the wounded to the hospital. The field hospitals will require to be treated as independent units in every respect and to be furnished with adequate transport, and the bearer columns will probably have to be attached to, and utilised by, these hospitals. A more easily-working and active organisation will also have to be given to stationary hospitals to enable them to change their position and to move when and where they are required. The hospital nursing system will have to be largely increased and better provided for; but we do not believe that it is practicable or expedient to have female nurses with the moveable hospitals in the immediate track of the front fighting line. As regards the men of the Royal Army Medical Corps, it has always seemed to us that every attention should be given to their hospital training as orderlies and nurses and that their military training in the way of parades and inspections should be curtailed as much as possible. The usefulness of such men lies in the former direction—as properly qualified attendants on the sick and wounded—and not in their acquaintance with military drills or their smartness as soldiers. The question of the organisation of a special service with a large sanitary executive for the carrying out of practical army hygiene will have to be considered and settled. There is much besides—such as having an army medical school in London instead of at Netley—affecting the medical service and all that appertains thereto which will have to be taken up in earnest in the coming army reforms, but whatever is done must be done deliberately and in time of peace." Very much of all this, as our readers know, has been carried out already. To the foregoing summary statement of what we then regarded as the main requirements it seems desirable to make a slight addition in order to make it a fairly complete one for the present time. In a campaign provision should be made for advanced medical depôts to advance, as far as practicable, with the forces in the field for the twofold purpose of replenishing field hospitals with supplies of medical and surgical stores and of relieving them whenever desirable of the transport of any unnecessary stores. These advanced medical store depôts should be in charge of a field medical storekeeper and should be provided with a packer, a carpenter, and a cutler as laid down in the "Field Service Medical Manual for the Indian Army." The adoption on field service of some system for the movement and location of such depôts at various convenient and accessible points would be attended with manifest advantages.

PROXIMUS ARDET UCALEGON.

THE appalling disaster which occurred at Chicago on Dec. 30th when the Iroquois Theatre took fire during the performance of a matinée has resulted in 588 persons losing their lives. Panic and not burning would seem to have been the principal cause of such a loss of life, one which exceeds that of any other theatre fire except that which occurred at the Ring Theatre, Vienna, in 1881 when 600 lives were lost. It is useless to speculate upon what further precautions might have been taken as regards the structure of the building. The theatre was quite new and was built on the most modern principles, being as "fire-proof" as it was possible to make it. There were in all 40 exits but, and this is a most important point, the doors of the emergency exits had never been opened and were not only locked but were rusted in their frames. So says the Chicago correspondent of the *Daily News* of Jan. 1st, while the Chicago correspondent of the *Times* of the same date states that the asbestos curtain between the stage and the auditorium had never worked properly during the five weeks that the theatre had been open. Panic, of course, neutralises every effort that may be made by builders, municipal authorities, or managers to render theatres safe, but nevertheless someone on this occasion must have blundered. The London County Council has done excellent work in safeguarding theatre-goers from fire but there is one London theatre at least where one portion of the house is in a most unsatisfactory condition and that is the amphitheatre in Covent Garden Theatre. Exit from or entrance to, these seats is obtained either by passing between the rows of chairs, which rows are placed very near together on a steep set of "gradines," or else by passing under the amphitheatre seats through a narrow passage like those in the Catacombs. What would happen here if there were a fire is awful to contemplate and the arrangement should certainly be altered. Another point to which we draw attention is the notice frequently seen in London theatres, "Extra exit to be used in case of necessity only" or words to that effect. Now this should not

be allowed. Every exit should be able to be used at every performance. Extra exits which are supposed to be used only in cases of emergency are when the time comes either found to be unusable or are not known to exist. The Chicago fire, as do most calamities, gave rise to both heights of heroism and depths of selfishness. There is no need here to recapitulate the heroism of Mr. Foy, the actor, or of the Right Reverend — Muldoon, the Roman Catholic Bishop of Chicago. The heartless conduct of the livery-stable drivers who being on strike refused to drive the dead and the injured to the hospitals seems incredible. If this report be true we do not think that Chicago will forget the occurrence in a hurry. Messages of sympathy have already passed from His Majesty the King and from the official representatives of us Britons to our kin beyond the seas and we can but add our condolences. The new year opens mournfully for Chicago and the saddest feature of the catastrophe is that a large proportion of the victims is made up of children.

"Quos dulcis vitae exsortes . . . .
Abstulit atra dies."

THE FAT BOY OF PECKHAM.

Mr. Hopkins, sitting at the Lambeth police court, has held that Johnnie Trundley, known to the public as the Fat Boy of Peckham, when he appears for the purpose of exhibiting his abnormal proportions upon a music hall stage is not playing or performing for profit and that consequently his so appearing is not to be forbidden under the Act for the Prevention of Cruelty to Children, 1894. This decision should settle the question of this obese infant's education, for so long as he can attract the curious to gaze upon him he will, presumably, be able to reside in the metropolis or to tour the country according to his engagements in the charge of a governess or a private tutor, instead of being consigned to the care of the public education authority. For the present, at all events, he will also be able to earn his living, and it is to be hoped that some portion of his emoluments will be set aside to provide for the time when he may have passed the zenith of his fame. He is certainly a child of very unusual development, even for cases such as his. In THE LANCET of July 19th, 1890, p. 161, we published the letter of a correspondent which gave the following figures with regard to a boy aged five and a half years. Height, 4 feet; weight, 8 stones 5 pounds; circumference of abdomen, 42½ inches; waist, 37½ inches; chest, 37 inches; neck, 14 inches; head 22½ inches; thigh, 23 inches; calf, 15½ inches; arm, 11½ inches; and forearm, 10½ inches. We have not before us the particulars relating to young Trundley, but as he was stated at the police-court to be five years of age and to weigh 10 stones 4 pounds they may be assumed to exceed those quoted. The attention aroused by the Peckham child has nothing new or surprising about it. Every travelling showman would testify that obesity has always been at least as highly appreciated by the public as abnormal stature, and the youthful Trundley has had the advantage, or the disadvantage, of living in an age in which notoriety is easily achieved. Even in these circumstances it is doubtful whether his fame as well as his vast proportions were not exceeded long before the days of halfpenny newspapers and cheap music-halls. He "cuts" no "record" in respect of size but is beaten in that respect by popular heroes and heroines who flourished more than a century ago. The "Encyclopædia Britannica," referring to an authority which we have not been able to verify, mentions a girl who at four years of age weighed over 18 stones. In "Cursory Remarks on Corpulency" by William Wadd, surgeon, published in 1816, we find recorded the death of "the surprising Worcestershire girl" who at five years old was 4 feet in height, 4 feet 2 inches round the breasts, and weighed nearly 16 stones. The same authority also mentions a seven-year-old boy in Paris who weighed 15 stones 10 pounds. In the matter of fame it will be long before the name of Trundley surpasses that of Daniel Lambert which has become almost a part of the English language. Daniel was born at Leicester in 1770 and died in 1809 at Stamford. The grandson of a celebrated cock-fighter and addicted to sport throughout his life his dimensions were not extraordinary and his habits were not different from those of other lads until he was 14 years old. When 23 years of age, however, he turned the scale at 32 stones and although he is recorded to have been then able to walk from Woolwich to London at the time of his death in his fortieth year he had attained the prodigious weight of 52 stones and was more or less helpless. He was a modest man and when he had achieved physical greatness fame was thrust upon him. He was for long unwilling to be made a show of but he gained a more than local reputation and people travelled from far to see him, resorting to various devices in order to be allowed to do so. At length the prospect of profit overcame his resolution and for four years before his death he exhibited himself in London and in the provinces. He was apparently a man of some wit, for once before he permitted the public to gaze upon him an inquisitive person had gained access to his presence by pretending to be a fellow sportsman interested in the pedigree of a mare, whereupon Lambert promptly replied, "She was bred by Impertinence out of Curiosity." In these respects, as well as in his dimensions, he has set an example which Master Trundley will not find easy to surpass. Before the days of Daniel Lambert Edward Bright of Malden was a well known fat man, although his name no longer lingers as a household word. He died in 1750 at the age of 30 years weighing 42 stones 7 pounds and is stated to have been "an active man till a year or two before his death, when his corpulency so overpowered his strength that his life was a burden and his death a deliverance." He was married and "left a widow big with her sixth child." Both Bright and Lambert seem to have been genial, good-humoured fellows, very popular among those who visited them; indeed, popularity seems to be the lot of the corpulent in fact as well as in fiction. The heroes of fiction, however, have the advantage in the matter of lasting glory and the names of Daniel Lambert and the fat boy of Peckham sink into insignificance beside those of Falstaff and the fat boy in "Pickwick."

MORE SUBSTITUTION.

FRESH disclosures appear almost every day in regard to the expanding practice of substitution. Foods, drugs, wines and spirits, and articles of clothing are all submitted to the impudent process, and according to representations recently made to us by a large firm of makers of meat foods and extracts the same kind of imposition is being practised by selling as extract of meat a preparation of yeast. It is well known, of course, that by a process of peptonisation an extract may be made from yeast cells which resembles extract of meat in chemical composition. Thus such an extract contains albumose, peptone, albumins, and extractives, and doubtless, on that account, possesses distinct nutrient value, but these facts can never justify the description of the preparation as extract of meat and it is infamous to state on the label that it is made from finest beef only. But surely there is a remedy for such an obviously false description. Chemical analysis would appear to be able easily to bring the fraud to light since genuine meat extracts give no appreciable result when added to alkaline copper solution, while yeast extract gives an abundant precipitate of a bluish-white colour. To some extent this test enables an approximate estimation of the amount of added yeast extract to be made. When—and we are weary of asking the question,

—is the fraud of substitution, which is rapidly reaching serious dimensions, going to receive the attention of our legislators? If the bakers are compelled according to the provisions of the Bread Acts to mark with the letter "M" all bread which contains potato flour or something which is not wheat, why cannot some such system be extended to every article, be it food, drink, or clothing, which is not the genuine thing but a substitute for it?

THE DIFFERENTIAL DIAGNOSIS BETWEEN MALIGNANT AND BENIGN TUMOURS.

Professor J. B. Farmer read before the Royal Society on Dec. 10th, 1903, a paper, a full *résumé* of which was published in THE LANCET of Dec. 26th, 1903, p. 1830, dealing with an important series of observations which, in conjunction with his collaborators—Mr. J. E. S. Moore and Mr. C. E. Walker—he has made on the subject of malignant growths. These researches go to show that the cell proliferation of cancerous neoplasms is characterised by a nuclear division which is distinct and distinguishable from that which is common to cell proliferation in ordinary tissue growth or in benign tumours. The particular form which is found according to these researches in all malignant growths so far examined, resembles in its essential cytology that which is met with in reproductive tissue. Without entering into details it may be stated generally that the proliferating cells which are typical of malignant growths pass through a stage of nuclear division which is technically known as heterotype mitosis. This heterotype mitosis, which also occurs as a phase in the history of the development in sexual cells, shows prophases of development in which the chromosomes instead of appearing as delicate thin rods or V's split longitudinally, to present the appearance of short thickened loops or rings. Further, these chromatic loops or rings are arranged lengthwise along the spindle and ultimately divide transversely instead of longitudinally as is normally the case in nuclear division. When once this heterotype mitosis has supervened in the progress of cell proliferation all the daughter cells arising from such heterotype division contain a reduced number of chromosomes. All these stages were beautifully illustrated by microscopic sections under high-power objectives and by lantern projections. Divested of its envelope of cytological nomenclature the type of nuclear division which these observers have found in malignant growths may be said to be the same as is found in the developmental stages of ovaries and testes, with the difference, however, that the series of metamorphic phases stops short of the phase at which true sexual cells—ova and spermatozoa—are produced. One of the great points of interest which attaches to these observations is that their essential features were not discovered by accident. They were anticipated and expected from the analogy of vegetable growths and from the characteristic appearance of apogamous and aposporous reproduction in ferns. Apart from the enormous advantage which the recognition of heterotype mitosis in new growths confers in the differential diagnosis between malignant and benign neoplasms Professor Farmer and his colleagues have furthered pathological progress by indicating a direction in which future researches with regard to the pathogenesis of cancerous growths may be pursued. Were it permissible at this early stage of these important investigations to speculate on the various factors which determine as it were the reversion on the part of somatic cells to a condition which closely resembles the prophase stages of sexual cells, considerations of loss of specialised function, due to hyper-stimulation in presence of adequate nutrition, might suggest a reason for this overflow of energy in the direction of reproductive growth. The conception of malignant neoplasms as predatory and independent organisms carrying on a parasitic existence in the tissues of their host is by no means new; in fact, it is as old as the word "cancer" itself. This in no way detracts from the independent originality of the work of Professor Farmer, Mr. Moore, and Mr. Walker.

MILK AND TUBERCULOSIS.

A FEW years ago the propagation of tuberculosis through the ingestion of the milk of tuberculous cows, or at least of such as suffered from tubercle of the udder, was looked on as established beyond dispute. The possibility of infection by this means had been proved experimentally on cattle and rodents, and the alleged increase of mesenteric tuberculosis among children, concurrently with the decrease of the mortality from every other form at all ages, was held to be the strongest possible confirmation. So firm was the conviction that on the strength of it Bang elaborated his procedure for the elimination of infected animals from herds and heavy losses were gladly incurred by owners of all classes in all countries for the purpose of being able to claim that their stocks had been tested and found free from all taint. But quite recently misgivings have been entertained on the subject and a reaction of opinion has been setting in on all sides. Koch's bold denial of the transmissibility of bovine tubercle to man, based on the negative evidence of his failure to infect cattle with the human disease, was far from commanding general assent, not only from being wholly inconsistent with the results obtained by others, but from the fact that all he had succeeded in proving was the greater virulence of bovine tubercle in relation to rodents, carnivora, and monkeys, and if to them presumably to man himself; he had indeed proved too much. But the statistics of tuberculosis in childhood, for it is on the incidence of the disease in the age period in which milk constitutes the main article of food that the late Sir Richard Thorne laid stress, have within recent years been the subject of considerable discussion. He assumed that "tabes mesenterica" was in all or nearly all instances an obsolescent synonym for mesenteric tubercle. Many, however, maintain that as a cloak for ignorance or as a euphemism it covers a heterogeneous multitude of wasting diseases of nutrition, including even congenital syphilis, the cases of tuberculosis forming a negligible quantity. It is urged not only in this country but on the continent, where a fallacy in our nomenclature of diseases can have no influence, that the experience of the post-mortem rooms in children's hospitals gives no support to the notion that the milk of tuberculous cows can be held accountable for any appreciable amount of infantile tuberculosis, for tuberculous deposits in the mesenteric and intestinal glands appear, as in adults, to be almost always secondary to others in the lungs or pleura, and that the abdominal form is extremely rare as a primary disease. The obvious rejoinder is that when the two coexist it is quite impossible to decide which was the first in order of time, and that the course of infection in tuberculous meningitis is *viâ* the thoracic duct, the entrance of the bacilli having been effected per os. The whole question has been under discussion in the section of pediatrics of the German Association of Naturalists and Physicians at Carlsbad; the statement of Schlossmann that in Germany, at any rate, milk infection played but an insignificant part in infantile tuberculosis was accepted well-nigh unanimously. At the meeting held at Cassel in September last Ganghofner of Prague reopened the discussion on the report of Heller of Kiel who stated that among 714 children dying from diphtheria in the period 1873–94 tubercle was found in one organ or another in 140, or 19·6 per cent., and in 53 of these the glands of the alimentary canal were affected primarily, these being 37·1 per cent. of the tuberculous cases, and in 33 of the 53 the mesenteric glands were alone affected, even the intestine itself remaining free.

The conclusions of Councilman, Mallory, and Pearce of Boston, U.S.A., drawn from the examination of 220 cases of diphtheria, agreed in the main with those of Heller, but Biedert, Baginsky, Hansemann, Virchow, Benda, and in short every other observer in Germany had, said Ganghofner, arrived at a very different opinion, Baginsky's figures, for instance, having been 144 cases of tuberculosis among 806 of fatal diphtheria, or 17·8 per cent., against Heller's 19·6 per cent., but only six, or 4·1 per cent., of the tuberculous cases having apparently been infected through the alimentary canal. Ganghofner, following in every detail, to the mode of examining the viscera, the methods of Heller, found among 972 cases dying from scarlet fever, diphtheria, measles, or small-pox evidence of tubercle in 252, or 25·9 per cent. In 179, or 71 per cent., of these the peribronchial lymph glands or the lungs or both were involved, and in 51, or 20·2 per cent., the bowels or mesenteric glands were so too, but in four cases only (two of measles and two of scarlet fever) was it limited to these. While Councilman and his colleagues at Boston, though dealing with but one-third of the material, arrived at results (37·8 per cent. of abdominal cases among those in which tubercle was present) almost identical with those of Heller at Kiel (37·1 per cent.), Baginsky at Berlin found the percentage of the total and of the abdominal cases of tubercle among children dying from infectious fever about one-tenth of the above, and Chiari in the course of seven months failed to find one in which the disease was restricted to the bowel or its vicinity. Hueppe has, however, suggested, and Penzoldt has proved, that in the act of swallowing the bacilli in milk may lodge in the tonsils, and setting up tuberculosis of the bronchial and tracheal glands simulate infection through the respiratory channels. Max Wolff, and more recently Weleminsky, feeding rabbits with tuberculous material induced pulmonary disease only, and the same results were obtained by Ravenel and by A. Hand of Philadelphia with apes, the intestines invariably escaping. It would appear, therefore, that the localisation of the lesions affords little, if any, clue to the mode of access of the infection, that ingestion no less than inhalation may lead to pulmonary and bronchial tuberculosis, while a primary pulmonary lesion may soon be put into the shade by the more extensive abdominal disease set up by self-infection through swallowing the sputa. In these circumstances the sole resource seems to be, as Biedert declared, the experimental feeding of large populations with different quantities of tuberculous milk. The conditions for this inquiry Biedert found almost ready to his hand in Bohemia where the mortality from every form of tuberculosis in the 85 districts, excluding Prague (where the influx of patients to the hospitals and the importation of foreign cattle would deprive the calculations of all value), ranged between 21·2 and 58·3 per 10,000 inhabitants and the percentage of tuberculous udders reported from the slaughter-houses from 0·03 to 1·8. But so far from there being any correspondence between the two the ratio was rather the reverse, and that for obvious reasons. Many districts are purely agricultural or forest, while others are densely peopled, the seats of industries and mining; and the incidence of tuberculosis varied directly as the density of the population, and in the urban districts the dairy farms were under better control. To this there was but one exception—viz., Gablonz, where both figures were high, the population being industrial and slaughtered cattle largely imported from Galicia. Ganghofner forbore to extend the like inquiry to Germany, being deterred by the extraordinary disproportion of tuberculous carcasses reported in the different states—e.g., 15·2 per cent. in Prussia, 29·39 per cent. in Saxony, and 6·3 per cent. in Bavaria—for which Ostertag of Stuttgart accounts by admitting that in southern Germany only the most pronounced cases were notified, whereas Biedert was satisfied as to the general uniformity of the practice in Bohemia. But before attaching great weight to the Bohemian figures it would be necessary to know something more as to the methods as regards death certification in the several parts of the country, and as to the death-rates from tuberculosis in the several age groups. Similarly information would be desirable as to the methods of nursing in the several districts; whether, for instance, suckling or artificial feeding obtained, and whether in the latter case the custom of boiling the milk prevailed. It would seem extremely probable that where overcrowding and poverty were present the effects of tuberculous milk, even if considerable, would be overshadowed. But on Behring's thesis infection by milk would exert its influence indirectly at every age period.

THE ACTION OF ANÆSTHETICS ON PLANTS.

THE close similarity in composition and properties of animal and vegetable protoplasm is brought into strong relief by the extremely interesting and curious investigations that have been recently made on the action of the vapours of ether and chloroform in promoting the process of inflorescence in plants or, in other words, in forcing them to flower at an earlier period than is natural to them. The production of early blooms in the lilac, the lily of the valley, the deutzia, and the azalea is a large and important industry in the early spring and for any grower to obtain well-developed flowers a week or two in advance of his brother horticulturists, especially if it can be accomplished at little cost, means large receipts and in addition the satisfaction of successful rivalry. Many years ago Claude Bernard, desirous of recording the phenomena common to animal and plant life, submitted both to the action of anæsthetics. He placed a specimen of the sensitive plant under a bell-glass with a small sponge dipped in ether and found that after the lapse of a few minutes the expanded leaves became insensible and ceased to close when touched. This experiment has been the parent of much research of late years and the results obtained have been summed up by M. Emile Lemoine, a fellow of the Horticultural Society, and have been published in the last number (October, 1903) of the journal of that society. The next step was taken by Dr. W. Johannsen of Copenhagen who, noticing that many plants push forth their buds after a period of repose such as occurs during the winter months or even in unfavourable seasons during the summer, conceived the idea that by inducing such a condition of rest by means of anæsthetics the plants would be, as it were, renovated and stimulated and rendered capable of developing their buds with greater vigour. Acting on this principle Dr. Johannsen was able to show at a meeting of the Copenhagen Academy of Sciences lilac blossoms forced by etherisation. The value of the proceeding was quickly recognised by horticulturists in Germany, France, and England, and these experimenters all proved in accord in regard to the remarkable power that the vapours of ether and chloroform have in promoting the formation of the inflorescence of plants. Lilacs, and especially the variety named Charles X. which is notably a difficult one to force, lilies of the valley, azaleas, and deutzias were subjected to the vapour of ether and timulant effects on the production not only of flowers but of leaf-buds and leaves were observed. M. Leblanc reported to the Société Centrale d'Horticulture de Nancy that his experiments with chloroform had been quite successful. On Feb. 19th last he chloroformed some plants of azalea mollis, giving them about half the quantity he would have used had it been ether and exposing them to the action of the vapour for about 48 hours. They were at once removed to a greenhouse at a temperature of 65° F. From March 5th the flowers began to expand a little and attained about to their full dimensions on the 8th, whereas plants grown for comparison were not expanded until

March 21st. The chambers in which the vapours are set free should be of large size and to prevent their escape should be absolutely air-tight and all manipulation must be executed in the daytime since the approximation of a light if air has gained access to the interior is liable to be followed by violent explosion which may occasion great destruction of property and possibly loss of life. The quantity of ether employed to air was about 30 or 40 grammes of pure sulphuric ether boiling at 95° F. to 100 cubic litres of air and the duration of exposure one or sometimes two periods of 48 hours. The economy of fuel effected by this method of forcing, which can be done at either a high or a low temperature, is considerable and covers the cost of etherification.

RADIUM AT BATH.

AFTER the discovery of Sir William Ramsay that radium slowly evolves helion, it is not surprising that traces of radium should be found in the deposits of waters which evolve small quantities of that gas. Professor Dewar some time ago employed the gases from the King's Bath at Bath as a source of helion for experimental purposes. The Hon. R. J. Strutt, son of Lord Rayleigh, now reports that the deposits at Bath contain radium in detectable amount but the proportion is very small, though probably radium would be found in larger quantities at a great depth where helion is set free. Can the healing properties of the waters have anything to do with radio-activity?

PERITONITIS IN SCARLET FEVER.

IN the *Boston Medical and Surgical Journal* of Dec. 10th, 1903, Dr. J. H. McCollom and Dr. J. B. Blake have described two cases of a rare complication of scarlet fever—namely, general peritonitis. This complication is not mentioned in most of the text-books, including Allbutt's "System of Medicine." The cases now described were the only examples of it in 8000 cases of scarlet fever admitted to the Boston City Hospital. The first case occurred in a boy, aged five years, who was admitted on April 10th, 1900, with diphtheria. Two days later the skin became red and on the following day the diagnosis of scarlet fever was obvious. On the twenty-third day after admission the patient complained of abdominal pain and vomited but on examination nothing to explain it could be found. The urine became slightly albuminous and the vomiting, tenderness, and rigidity of the abdomen continued. Ten days later the umbilicus began to protrude and the area around it was red, swollen, and painful and the abdomen was distended and dull in the flanks. 43 days after admission paracentesis yielded 21 ounces of pus which showed on culture the streptococcus pyogenes. On the next day the umbilicus ruptured and for several days fluid leaked from it. On May 31st the thorax was aspirated in the seventh space and a few drachms of pus were withdrawn; the right ear was discharging slightly. Recovery followed. In the second case a man, aged 31 years, was admitted on April 22nd, 1903, on the seventh day of an attack of scarlet fever with a brilliant eruption and a systolic apical murmur. 13 days later there was a trace of albumin in the urine and he was slightly nauseated. On the following day there was abdominal pain. On May 9th there were abdominal tenderness and suppression of urine. Abdominal distension and rigidity rapidly developed. The legs were drawn up and the face became pinched. The abdomen was opened and a free discharge of thin pus, followed by a curd-like substance, took place. The intestines were red and congested. The peritoneal cavity was flushed with saline solution and drained with gauze wicks. The patient rallied but the suppression of urine continued and the vomiting increased. Death took place 25 hours after operation. A culture from the pus showed the streptococcus. At the necropsy a layer of fibrin was found on the diaphragm, the spleen, the liver, and both pleuræ. There were also acute nephritis and vegetative endocarditis. In both cases the peritonitis occurred late and apparently was due to secondary streptococcic infection which was part of a more general infection.

A PURE MALT WHISKY BILL.

WE understand from a very authoritative source that a pure malt whisky Bill is to be introduced into Parliament in the approaching session. We have for some time taken special pains to point out the urgent need there is for dealing with the practice of substitution which exists to an appalling extent in the spirit trade. We have vigorously maintained that the State should regard it as a fraudulent act to sell grain spirit as genuine malt whisky or genuine brandy, and that legislation should be adopted which shall require in the case of all spirits sold for consumption a label placed on the bottle containing a statement upon it accurately describing the nature of the contents. It is not only a question of fraud that is concerned but a question also of injury to health We should be very gratified if some measure of control on the lines indicated were adopted, particularly as we feel that the inquiries instituted by THE LANCET Special Analytical Commission on Brandy opened the eyes of our readers and, through them, of the public to the blending tricks of the spirit trade. (It is interesting to note that according to the dictionary the word "blend" is allied to "blind").

THE BRITISH OPHTHALMIC HOSPITAL AT JERUSALEM.

Their Majesties the King and Queen are giving their patronage to an entertainment which is being arranged for the forthcoming season at His Majesty's Theatre in aid of the British Ophthalmic Hospital at Jerusalem. The entertainment will consist of historical tableaux and musical and dramatic performances by leaders in the operatic and theatrical world. Our readers do not require to be reminded of the terrible effects of ophthalmia in the East. They leave a lasting impression upon all travellers and represent an amount of suffering that is practically incalculable. With the object of relieving this form of suffering the institution known as the British Ophthalmic Hospital, which is the only one of its kind in the East, was started some 21 years ago as an out-patient dispensary within the walls of Jerusalem, and since that time has made much progress, relieving thousands of poor sufferers not only in the neighbourhood of Jerusalem, but along all the coasts of the Holy Land and in districts and countries still more distant. It has been found necessary from time to time to enlarge the size and to extend the sphere of usefulness of the institution till at the present moment there exists a well-built hospital standing in its own grounds of six acres on the Bethlehem-road with wards containing 50 beds under the supervision of two experienced resident English surgeons. But this extension necessarily means increased cost and the annual subscriptions have been totally inadequate to meet current expenses. In order that the 50 beds may be always available a sum of £2000 annually is necessary, but towards this there is only a small endowment fund bringing in less than £50 a year, while the annual subscriptions amount to the paltry sum of £300 a year. Like the hospitals in this country the British Ophthalmic Hospital opens its doors to all of whatever race or creed and it is non-proselytising and non-political. On the other hand, it is organised by a great Christian order of chivalry, the Order of the Hospital of St. John of Jerusalem in England, and is supported

mainly by Christian charity. The statistics for 1902, when only 16 beds were available, show that there were 674 in-patients admitted, 6062 new out-patients, and a total attendance of out-patients of 19,196. The number of operations performed was 1271 and anæsthetics were administered 680 times. An institution standing by itself as this one does and performing such excellent service to the sick poor ought not to be compelled to plead for funds and we hope that the charitable public will when the facts become known respond liberally. The deprivation of sight is one of the saddest calamities with which the human body can be afflicted and a charity which administers to the defects of the physical organ of sight must be worthy of universal sympathy and help; nor should we forget that the healing of the blind formed part of the ministrations of a Great Physician and Master whose birth some 1900 years ago in the land where the British Ophthalmic Hospital is situated we have but recently celebrated. Subscriptions should be sent to the honorary secretary of the British Ophthalmic Hospital, The Chancery, St. John's Gate, Clerkenwell, London, E.C.

ANTIDIPSO.

IN reference to analyses made by Dr. R. Hutchison at the London Hospital and by ourselves of the specific for drunkenness called "Antidipso," we published in THE LANCET of Dec. 19th, 1903, p. 1742, our estimate of the value of the preparation. We received thereupon a visit from Mr. A. L. Pointing who brought the originals with him of certain testimonials which he had previously forwarded to us. He has since sent us the following letter:—

The English Illustrated Magazine,
Bloomsbury Mansion, 24 and 25, Hart-street,
London, W.C., 2nd January, 1904.

Manager, THE LANCET, 423, Strand, W.C.

re Antidipso and the Ward Chemical Co.

DEAR SIR,—Referring to my interview with you yesterday when I placed before you evidence, in the way of original testimonials, bearing out our claim that Antidipso cures drunkenness, the letters you had before you showed that the cure was equally effective where the powders had been administered without the knowledge of the patient as it was when taken with the patient's knowledge.

You read letters from patients themselves blessing the day that they took Antidipso; you had letters from mothers, wives, and sisters thanking us for putting within their reach the means of curing their brothers, husbands, and fathers of the craving for drink.

All this data fully warrants the claim we make for this specific and we feel sure that you will do us the justice of making known to your readers the result of the interview and the knowledge that you now have that our specific, Antidipso, does what is claimed for it, viz., it cures the craving for alcohol.

I trust that I shall see this reference made by you in your next issue.

Yours faithfully,
ENGLISH ILLUSTRATED MAGAZINE,
A. L. POINTING, Director.

We have no objection whatever to publishing Mr. Pointing's letter as he desires. His statement that "this data fully warrants the claim we make for this specific" is not borne out. We do not believe that "Antidipso" cures the craving for alcohol and no amount of testimonials from drunkards, or the friends of drunkards, even if we had tested their accuracy, could possibly be accepted as a proof of what is claimed.

PULMONARY TUBERCULOSIS IN LEWIS.

ALTHOUGH pulmonary tuberculosis may be said to be one of the diseases affecting mankind generally, yet in some parts of the world it is certainly rare. For instance, it is said to be very uncommon in the Faroe Islands, in the Hebrides, and in Iceland. We have received a communication from Dr. C. M. Macrae, medical officer of health of Lewis district, which is of interest in reference to the geographical distribution of this disease. He draws our attention to a passage in Miss Goodrich-Freer's book "The Outer Isles." This writer quotes from an older work, Smith's "Lewisiana," and endorses the statement as a present fact that "tubercular consumption is unknown in Lewis." Dr. Macrae says, "For the sake of truth and the best interests of Lewis men this assertion has to be not only disputed but very seriously denied." He goes on to remark that a century ago, when this remote "outer isle" was more isolated from foreign intercourse and outside influences and diseases, the island may have been justly credited with partial, if not total, immunity from pulmonary tuberculosis. This statement is corroborated by the observations of Dr. D. Christison recorded in the Transactions of the Society of Scientific Associations in 1863; and Dr. Morgan, writing in 1855,[1] suggested that the immunity was due to peat smoke. Dr. Macrae says, however, that "this semi-Madeira character of a blessed exemption from a malady so death-dealing can no longer be maintained, much less boasted of." He states that the victims of the disease in Lewis number from 46 to 60 annually and are yearly on the increase. The insular authorities, he adds, are resolved to take such steps as may prove efficient in securing such remedial means as have proved successful elsewhere in checking the spread of the disease. This marked change in the local incidence of the disease is interesting as demonstrating the communicability of the disease by means of intercourse between an insular community and the general population.

THE SKI.

SKIS, like snow-shoes, are intended to facilitate progression over snow but whereas with the latter laborious tramping is essential with the former an easy gliding motion like that of a skater on ice can be maintained with comparatively little exertion when the snow is sufficiently deep and smooth. The chief objection to snow-shoes is the width of the tread which compels the wearer, especially if of short stature, to straddle to an uncomfortable extent. The ski, on the contrary, is quite narrow and yet owing to its great length the superficies it opposes to the snow is considerably larger than that of its racket-shaped rival. A ski consists of a slender strip of hard elastic wood, generally ash, about eight or nine feet long but only a little wider than the sole of the wearer's foot and nowhere much more than one inch in thickness. Anteriorly it tapers to a point which is curved upwards, the posterior end being similarly bent but to a much slighter extent. An expert on skis can travel at the rate of five or six miles an hour or more on flat ground, but down hill there is scarcely any limit to the speed which he may attain. 20 or 25 miles an hour is not considered an excessive rate under favourable conditions. As will readily be imagined, rapid movement on a yielding surface beneath which unseen, or only faintly indicated, obstacles may exist cannot be free from danger. In Norway where skis are universally used, even by children going to school and by postmen on their rounds, accidents are said to be extremely rare, if not altogether unknown, but elsewhere unfortunately the record is less favourable. No doubt the great depth of the snow throughout the Scandinavian peninsula is sufficient to account for the immunity. The deeper the snow the less danger there is of unseen obstacles and even if falls should occur they are little likely to be attended by injury when the hard surface is abundantly covered. A fatal ski accident which occurred in the French Alps was reported in the *Archives de Médecine Militaire* for August, 1903, by Surgeon-Major C. Legrand. A soldier belonging to the 30th Chasseurs was taking part in ski drill with his company near Barcelonnette when passing over a concealed irrigation channel at a high rate of speed he stumbled and nearly fell. He was going down hill at the time and in the endeavour to save himself contrived to knock his iron-pointed staff against one of his skis. It swung round base downwards and lodged in the snow, whereupon the sharp end struck him under the right

[1] Brit. Med. Jour., 1855, p. 1039.

jaw bone, inflicting a punctured wound. Immediately a jet of arterial blood spouted but his comrades were able to control the flow by digital pressure on the wound. At the regimental hospital the submental artery was ligatured and at once all hæmorrhage ceased, but on recovery from the chloroform it was found that left hemiplegia had occurred. That evening there was slight oozing of blood from the wound. Death from coma took place about 48 hours after the accident. At the post-mortem examination the common carotid artery was found to have been wounded as well as the submental. The carotid wound was horizontal, only about one-third of the vessel remaining intact.

MISTLETOE.

IT is difficult to see by what exact process of reasoning mistletoe (*Viscum album*) has come to be regarded as poisonous by the vulgar. Botany books describe the fruit as "inferior" but succulent and we know that birds, especially the mistle-thrush, eat it and convey the undigested seed to the trunks of trees to which its viscous coating enables it to adhere. Writers from Paracelsus down to quite recent times have been loud in their praises of mistletoe as a cure for epilepsy and as lately as 1881 Dr. R. Park, writing in the *Practitioner*, describes a mining district in the Forest of Dean where heart troubles were habitually treated with a certain tincture of mistletoe, which was handed on to him among medicine bottles found in a rural surgery. This proved a good substitute for digitalis. At the beginning of the eighteenth century Colbatch published a work upon mistletoe which ran into many editions. He describes a drug made from the plant as "a most wonderful specific remedy" for convulsions and as late as 1806, if not later, the same drug is prescribed most confidently by a certain Dr. Henry Frazer in cases of epileptic seizure. Going back to the days of Pliny we find that philosopher describing the *Viscum album* as an antidote to poison and a remedy for sterility. His, too, is the classic description of the plucking of the mistletoe by the Druids. At a later period, but still long before medicine had arrived even at the "signaturist" stage, mistletoe is found playing a great part in the Volüspa and other Scandinavian sagas. It was with a sprig of the plant, or an arrow made of the stalk of the plant, that the blind and somewhat dull-witted god Hodür was induced by Loki, the evil principle, to have his fling, in a literal sense, at Balder, the Daylight or good principle. Myth represents Balder as being killed outright by the mistletoe, a little plant growing on the eastward slopes of Asgard, and the sole thing among minerals, plants, and poisons, as well as among gods and men, that had not promised Freya to be harmless if used against her son Balder. Within this myth of the German forests there are doubtless other myths, but it is to this one, perhaps, that the mistletoe owes its character as a poisoner, a remedy in cases of "soul disease"—for it was thus that epilepsy was regarded—and as a presider over chartered liberties between the sexes now symbolised by kissing.

GANGRENE OF THE KIDNEY.

IN the *Australasian Medical Gazette* for November, 1903, Dr. R. E. Weigall has published the following case of the rare condition of gangrene of the kidney. A married woman, aged 23 years, was seized with sickening pain in the region of the right kidney which extended down the right leg and was followed after an hour by hæmaturia. While at rest in bed she was free from pain and had a temperature of 100° F. On palpation the right kidney was very tender and any movement caused pain. On the next day the urine was blood-stained but there was no evidence of fresh hæmorrhage. The temperature was normal, the kidney was tender, and pain occurred on any movement. In the evening, 28 hours after the onset, there was a severe rigor, the temperature rose to 104·6°, and the urine was scanty. On the following day the urine which had been passed in 24 hours amounted to only 26 ounces but was normal in character. On the fifth day 23 ounces of urine were passed and the kidney was apparently functionless. It could be grasped and manipulated without pain. The patient was rapidly becoming worse. The temperature ranged between 103° and 104°. The symptoms included a coated tongue, vomiting, and a pulse of from 140 to 160 per minute. Gangrenous kidney was diagnosed. Although the patient appeared to be moribund an operation was performed. A large loose gangrenous kidney, which was completely twisted on its axis, was exposed. The pelvis was quite green. The kidney was removed. From the hour of operation the patient began to rally. Saline enemata were given. In four days the daily secretion of urine reached 52 ounces. The immediate cause of the twisting of the kidney appeared to be that when the patient was watering her garden one of her children jumped straddle-legged on to her hips and struck his knee in the region of the right kidney which was already loose.

WARDROP'S OPERATION FOR ANEURYSM.

THE brilliant success which followed Hunter's operation for aneurysm by ligation of the artery on the proximal side of, and at a distance from, the sac led to its employment for most of the larger arteries of the body, but there were some aneurysms which were not amenable to this mode of treatment because it was impossible to apply a ligature on the proximal side of the aneurysmal sac. The most important member of this category is the innominate artery. The vessel itself is short, only about one and a half inches in length, so that the aneurysm would need to be close to the bifurcation and very small in size to allow of the application of a ligature on the brachiocephalic trunk between the sac and the aorta. Such conditions never occur in practice and, therefore, for the treatment of an innominate aneurysm proximal ligation is impossible. This was the position towards the close of the first quarter of the nineteenth century when James Wardrop suggested that distal ligation would probably have an effect identical with that produced by the application of a ligature on the proximal side, and his aim in making this suggestion was to arrest completely the flow of blood through the sac so that coagulation could occur, though the hydrostatic pressure would not be lessened, at all events at first. In the case, however, of an aneurysm of the innominate it must be rarely, indeed, that it is possible to apply a distal ligature to the vessel itself and therefore Wardrop made the suggestion that the branches of the innominate, the carotid and the subclavian arteries, should be tied instead. The difficulties in ligating the first or second part of the subclavian artery are very great and therefore Wardrop advocated tying the third part. Inasmuch, however, as many branches come off from the subclavian in the first and second parts ligation of the third part cannot, even when combined with occlusion of the carotid artery, lead to a complete stasis in the blood flow through an innominate aneurysm, but experience has shown that it does at least modify the blood stream to such an extent as to promote the deposition of coagulum in the aneurysm. It will be seen that Wardrop suggested the ligation of *both* branches of the innominate artery but curiously nearly every text-book on surgery describes Wardrop's operation as ligation of one only of the branches. In "Looking Back" in THE LANCET of Jan. 2nd, 1904, p. 48, we have reprinted a review of a paper by Wardrop describing a case of carotid

aneurysm in which he had successfully applied a distal ligature to the artery. It is perhaps the situation best suited for a distal ligature when an aneurysm involves the carotid artery near its origin. This operation was first performed on the carotid artery by Wardrop, though it is named after Brasdor who treated a femoral aneurysm by this method in 1799.

THE UNIVERSITY OF LONDON: INSTITUTE OF MEDICAL SCIENCES.

WE understand that towards the fund being raised by the Senate of the University of London for the proposed Institute of Medical Sciences, Mr. H. T. Butlin, the dean of the Faculty of Medicine, has contributed £1000; Sir William Church, Bart., K.C.B., President of the Royal College of Physicians of London, £100; and Mr. J. Tweedy, President of the Royal College of Surgeons of England, £100.

ANOTHER FATAL ACCIDENT ON SCAFELL.

THREE months only have passed since we recorded a fatal accident on Scafell.[1] Another fatal accident took place near the scene of the last disaster on Dec. 26th when a party of climbers attempted the ascent of Scafell, avoiding the dangerous route taken by the ill-fated party in September of last year by climbing the way of Steep Ghyll. On their return from the summit of Scafell two of the party attempted the descent of Deep Ghyll, which is generally a rock climb, but on this occasion the ghyll was filled with snow and the climber, Mr. Goodall, who subsequently lost his life, wishing to gain further practice in glissading, took the lead. He safely descended the ghyll, passing over the screes and the lower edge when he stopped suddenly, then to the horror of the other climber he began to slide down the slope, unable to control himself, and finally disappeared from view. His body in falling struck the rocks on Lord's Rake at the base of Deep Ghyll and death seems to have been instantaneous. It is a somewhat sad coincidence that the deceased was a journalist who supplied several of the accounts relating to the last fatal accident. It is probable that no amount of ordinary foresight would in this case have prevented the accident, but as we understand that the victim insisted on taking the lead it is quite possible that his own confidence may have contributed to the accident. In such an exhilarating pastime as mountain climbing the dangers by which it is attended may easily be forgotten and the need for caution cannot be too often reiterated. This is the more emphasised by the fact that Mr. Goodall is said to have been an experienced climber.

A PRIZE in clinical medicine has recently been founded at Charing Cross Hospital by the old students and friends to commemorate the connexion of Dr. T. H. Green with the hospital and medical school for the long period of 34 years. The prize is open to all unqualified Charing Cross students who have finished their preliminary work and have prosecuted their clinical studies for not less than one year at the hospital. It will be given for the best work done upon some special subject involving simple clinical observation in the wards or clinical laboratory and on the result of a practical examination on cases in the wards. The subjects of research may be chosen by the candidates themselves but they must be submitted to the examiners for their approval.

THE medical officer of health of the Cape Colony states that for the week ending Dec. 12th, 1903, no case of bubonic plague in a human being was reported from any place in the colony. Plague-infected rats were found at Port Elizabeth, East London, Queenstown and Knysna, but of 631 rats examined in the Cape Town and Harbour Board area none was affected with plague. As regards the Mauritius a telegram from the Acting Governor received at the Colonial Office on Dec. 26th states that for the week ending Dec. 24th there were 62 cases of bubonic plague and 41 deaths from the disease.

[1] THE LANCET, Sept. 26th, 1903, p. 896.

THE annual course of lectures at the Hospital for Consumption and Diseases of the Chest, Brompton, will be opened by Sir Richard Douglas Powell on Wednesday, Jan. 27th, when he will take as his subject Foreign Bodies in the Bronchi. The lectures for 1904 will be delivered as usual at 4 P.M. on Wednesday afternoons and will be free to qualified practitioners and to students of medicine.

THE opening clinical lecture of the spring session of the North-East London Post-Graduate College will be given at the Tottenham Hospital by Dr. T. Gilbart Smith, physician to the London Hospital, on Thursday, Jan. 14th, at 4.30 P.M. The subject announced is Certain Points in the Diagnosis of Fluid in the Chest and all medical practitioners are invited.

AT the National Hospital for the Paralysed and Epileptic on Tuesday, Jan. 12th, Dr. J. A. Ormerod will lecture on Friedreich's Ataxy and on Friday, Jan. 15th, Dr. C. E. Beevor will lecture on Muscular Atrophy.

Looking Back.

FROM

THE LANCET, *SATURDAY*, JAN. 7, 1826.

I believe that much mischief has been done by the misapplication of bandages to diseased parts, with a view "to stimulate the absorbents," without that attention to support the lower part of the limb, which is essential to the patient's safety. It has not been proved that we possess any direct power or control over the absorbents; whilst the power of limiting or controlling deposition is evident and demonstrable. You are no doubt aware that every part of the living body (except the hair, nails, and teeth) is undergoing perpetual change, differing in degree according to the various textures, but extending even to the solid parts, as may be proved even in the bones. Now to effect this change two opposite functions are necessary, the one the bringing or deposition of new matter, the other the removing or taking away that which has become useless; the latter of these functions is termed absorption; now so long as the deposition and absorption are equal to each other, the part, although undergoing continual change, will neither increase nor diminish; but if the deposition exceed the absorption, accumulation must result; and if the absorption exceed the deposition of new material, diminution or wasting of the part must ensue. Hence, therefore, we may trace the wasting of limbs under the use of bandages, (often employed by beggars and others who simulate diseases) and the more beneficial effects of diminishing the swellings and enlargements which have been produced by disease, more directly to the compression of the bloodvessels, which diminishes the quantity of blood circulating within them, without reference to any other power, supposing the absorption to continue at its usual rate. The more you investigate this subject the more demonstrable it will appear. The pathology of that swelling of the lower extremity sometimes occurring after childbirth, termed *phlegmasia dolens*, has shown that the return of the blood has been obstructed in the vein, whilst the obstruction not extending to the artery, the blood has continued to be propelled into the limb, and the more fluid or serous portion of it forced into the surounding parts, particularly the cellular structure. Now this swelling before the actual obstruction to the circulation of the blood was demonstrated, and Dr. D. D. Davis has the merit of having been the first, in this country at least, to publish the knowledge of this interesting fact; this swelling, I repeat, had

long been considered as a disease of the absorbent system, and many ingenious hypotheses had been framed to explain it; but their fallacy became obvious when demonstration afforded the light of truth.[1]

TRAINING OF, AND REGULATIONS FOR, MIDWIVES IN ITALY.

I.—TRAINING OF MIDWIVES.

THE importance of a careful education of midwives has long been recognised in Italy and their training made a special care of the State. In a country where, even more than in England, the bulk of obstetric practice is in the hands of the midwife and where social and climatic conditions probably favour the spread of infection to an unusual degree it was indeed most necessary for the welfare of the community that all the protection possible should be afforded to parturient women, especially of the lower and poorer classes, among whom the mortality from puerperal fever had been very high. Trustworthy statistics as to the death-roll from this cause previously to the year 1887 are unfortunately not obtainable, but it is admitted to have been very heavy. From 1887 onwards, however, a separate record has been kept of such deaths and the total number for each year, together with the proportion it bore to every million of inhabitants, is given in the subjoined table, the last column of which shows also the deaths from causes incidental to pregnancy, parturition, and the puerperium other than puerperal fever:—

Year.	Total deaths from puerperal fever.	Rate per 1,000,000 inhabitants.	Total deaths from other diseases of pregnancy, parturition, and puerperium.	Rate per 1,000,000 inhabitants.
1887... ...	2504	85	4436	150
1888... ...	2451	83	4430	149
1889... ...	2106	70	4003	134
1890... ...	1682	56	2713	90
1891... ...	1633	54	2445	81
1892... ...	1530	50	2233	73
1893... ...	1774	58	2216	72
1894... ...	1604	52	2444	79
1895... ...	1514	49	1893	61
1896... ...	1292	41	2335	75
1897... ...	1199	38	2143	68
1898... ...	1214	38	2016	66
1899... ...	1302	40	2270	71
1900... ...	1033	32	2001	62
1901... ...	994	30	1773	54
1902... ...	1037	32	1746	53

One of the most potent factors contributing to the improvement noticeable in the later years as shown in this table has without doubt been the better equipment of the midwife for her responsible duties and the precautions taken by her as a result of her more careful training.

The education of the midwife was placed under the supervision of the Government in virtue of a law passed in 1876 for the institution of obstetric schools. According to this enactment such a school can be established in any city where a university or a medical school already exists, the necessary funds being provided by the Minister of Public Instruction in conjunction with the provincial or the communal authority, and the direction and the teaching being undertaken by the professor of obstetrics of the local university or medical school. It can also be established in any other city, but then one or other of the local authorities must bear the cost. The latter class of schools may be placed on the same footing as those connected with the universities by their fulfilling the requirements of the present law, for the purposes of which the kingdom is divided into university districts, each school of obstetrics falling under the jurisdiction of the university in the district of which it happens to be.

Every obstetric school is required to have in addition to the directing professor (who is nominated by the King) at least one doubly qualified medical assistant and one certificated midwife, both of whom are nominated by the Minister. According as the necessity may arise there may be added, on the advice of the directing professor, other qualified assistants and midwives who are also nominated by the Minister. Further, no obstetric school can be established except in connexion with a maternity hospital or a hospital containing at least 15 beds for maternity cases and in which in the course of a year the number of labours is not less than 120, taking the average of the last five years. The number of pupils must not exceed that of double the number of beds. There are intern pupils, who have their quarters and food in the school, and extern pupils, who live outside, but all are equally subject to the discipline of the school, the rules of which must have received the approval of the Minister of Public Instruction. To be admitted as a pupil the candidate must be healthy, free from physical imperfections which disfigure or unfit her for the work, and must have attained the age of 18 years and not passed that of 36. She must produce a certificate of good conduct from the municipality of the commune where she has lived for the last two years and of having been successfully vaccinated or of having had small-pox. In order to be admitted to the examinations for the midwife's diploma the candidate must have passed the entrance examination of the third elementary class or other equivalent test and have paid the matriculation and inscription fees. (The total fees for the curriculum, including that for the diploma, amount to 89 francs—£3 11s.). Having fulfilled these requirements she is furnished with an inscription card upon which a report is written every two months as to the pupil's diligence, progress, and conduct. At the end of the second scholastic year the pupils who have passed the examination of the first year present to the rector of the university or to the directing professor of the school an application to be allowed to continue the practical course.

As to the teaching itself it is partly theoretical, partly practical, the former being given in the form of lectures by the directing professor, the latter at the bedside of the patient. The theoretical course lasts one year; the practical course commences simultaneously with the theoretical and lasts two years for extern pupils, whilst for intern pupils the second year's course is reduced by one-third. There are two examinations, the first being held during the last ten days of the theoretical course, the second at the end of the practical course. The theoretical examination consists of two parts—a written and an oral, the former lasting not more than four hours, the latter half an hour. The examining commission (which consists of the directing professor of the school as president and two other members nominated by the university of the district on the advice of its medical faculty) decide by vote whether the candidate has passed or not and if the majority declare in her favour the individual members, each of whom disposes of five points, award three, four, or all of these according as the candidate has secured "simple approval," "distinction," or "eminence" respectively in the examination. In the case of a poor candidate who obtains "eminence" the matriculation and first year's fees are returned to her. In order to gain admission to the practical examination the candidate is required to present the history of two cases observed by her during the clinical course written by herself and signed by the directing professor. The examination is oral, lasts at least one hour, and is made to turn partly upon the two cases presented by the candidate and partly on the principal obstetric manipulations as practised on the phantom. Questions are also put regarding the diagnosis of pregnancy and obstetric explorations, on the method of assisting at labours, on the dangers and the precautions necessary in complicated cases, and upon the duties of midwives in the exercise of their profession. The votes of the commission are then taken as before and the successful candidates receive diplomas from the universities of their districts conferring upon them the right to practise.

Women who at the date of the promulgation of this law were engaged in obstetric practice without possessing a regular qualification were granted the diploma after having passed the practical examination only, but after the lapse of

[1] Extract from lecture on Bandages delivered to the students of the late Borough Dispensary by Mr. Alcock.

three years—i.e., from 1880 onwards—no one not holding the regular diploma has been allowed to practise as a midwife in Italy.

II.—REGULATIONS FOR MIDWIVES.

With that regard for detail which characterises Italian legislation in sanitary matters very precise instructions are contained in the Act of Parliament dealing with the duties of midwives practising in Italy, whether these exercise their profession independently as private individuals or whether they do so in the capacity of paid servants under the control of the communal authority. While exception may be taken to some of these directions, as, for instance, to that recommending the routine douching of the vagina by the midwife, which by many will be considered inadvisable, it will be seen that on the whole the rules given are excellent. That they were not without a favourable effect would seem to be borne out in a striking manner by the statistics already quoted, in which it will be observed that a remarkable reduction in the number of deaths from puerperal fever occurred in the first year after their introduction—namely, in 1890, a fall in the mortality having taken place in that year of 14 per million from that of the previous year, equal to a diminution of 20 per cent. The Act referred to was put in force on Feb. 23rd, 1890, and is termed "Special Regulations and Instructions for the Obstetric Practice of Midwives in the Communes of the Kingdom." Its provisions, which are worth quoting pretty fully, and which still remain unmodified by later legislative measures, are as follows:—

Article 1.—Every midwife must provide herself with a bag containing the means necessary for assisting at a natural labour and for arresting hæmorrhage in urgent cases. In this bag must be kept a copy of the instructions which accompany the present regulations.

Article 2.—The midwife will attend with the greatest possible accuracy to the rules laid down in the instructions.

Article 3.—The midwife is obliged to call a doctor immediately anything abnormal occurs in the course of labour, or during the puerperium, and immediately the temperature, as taken with a thermometer placed in the axilla for 15 minutes, passes 38° C. (100·4° F.).

Article 4.—Should no doctor be procurable the midwife, as soon as the temperature taken as above rises at any period of the puerperium over 38·5° C. (101·3° F.), will notify the municipal authority of the fact in order that the necessary measures may be taken. In case she should fail to do so she will be punishable by fine.

Article 5.—The midwife is hereby prohibited from employing surgical instruments or practising manual operations on the fœtus in utero for which she is not authorised by her diploma, except in cases of exceptional urgency where it is not possible to procure medical aid in time and in regard to which the midwife assumes the responsibility of her action. Any contravention of this article is punishable by a fine of not less than 100 lire (£4).

Article 6.—A midwife who has attended a woman affected by any infective puerperal process must abstain from the exercise of her profession for at least five days wherever it is possible to provide other help for obstetric cases. In any case the midwife must not approach another pregnant, parturient, or puerperal women without having had the written authorisation of the communal sanitary officer who will ascertain whether she has been subjected to a thorough and effectual disinfection according to the rules prescribed in the instructions accompanying the present regulations. Any contravention of this injunction is punishable by a fine of 500 francs (£20) and with imprisonment for from one to six months.

Article 7.—Every midwife must keep a register of the confinements she attends by order of the communal authority, recording each case as soon as possible after the termination of the labour.

Article 8.—In terms of the sanitary law midwives are entitled to have the medicines and antiseptics which they require for the poor whom they attend in labour supplied to them gratuitously by the commune or institution whose duty it is to provide gratuitous attendance for the parturient poor.

INSTRUCTIONS FOR MIDWIVES.

Article 1.—Every midwife called to assist a parturient woman must bring with her (*a*) a bag containing the following articles: (1) an irrigator to hold one litre, a rubber tube with stopcock for attaching to it, and two vaginal glass tubes; (2) nail brushes, scissors, and a nail file; (3) an apron of white material, fresh from the wash, with short sleeves, of such form and size as to cover the whole of the front part of the person; (4) a stethoscope; (5) a Centigrade maximum thermometer tested for accuracy; (6) a pair of scissors for cutting the cord; (7) a gum-elastic catheter for drawing off the urine and a gum-elastic sound. (*b*) Materials for disinfection: (1) boric acid, 200 grammes (six and two-third ounces), divided into five equal powders, one of which is to be dissolved from time to time as required in a litre of hot water to serve for vaginal irrigation and for disinfecting the hands and instruments; (2) soap; and (3) carbolised cotton-wool or sublimate-wool for vaginal plugs.

Article 2.—The midwife on her arrival at the house of the patient will see that, as far as possible, the room in which the labour is to take place and every article required is perfectly clean and especially that the linen has been freshly washed. She must then (1) prepare two litres of the antiseptic solution in the way indicated in Article 1 (*b*); (2) pour a sufficient quantity of this solution in a basin and immerse in it for at least ten minutes the instruments used in the course of the labour—namely, the vaginal tubes, the catheter, and the scissors; (3) after having turned up the sleeves of her dress above the elbows wash her hands and forearms with soap and water for the space of at least five minutes, paying especial attention to cleaning the nails with scissors, file, and nail brush. She will then put on the apron and again wash the hands, this time with the antiseptic solution.

Article 3.—After these preparations the midwife may approach the patient and, if the case be not urgent, proceed to an external examination, endeavouring thus to ascertain the most important data regarding the presentation and the conditions of health of the fœtus by means of palpation and auscultation. She will then wash the external genitals and adjacent parts (the perineum and the upper part of the thighs), using first soap and boiled water and then repeating the ablution with the antiseptic lotion already prepared.

Article 4.—She will then prepare another litre of the antiseptic solution, pouring half of it into a clean basin for again washing the hands and then proceed without drying them to make the vaginal examination. The washing of the hands in the antiseptic solution is to be repeated each time in the further course of the labour that it is necessary to explore the vagina.

Article 5.—The vaginal examination must not be repeated oftener than is absolutely necessary, whilst on the other hand, auscultation should be practised frequently, especially after the membranes have ruptured. The midwife must place nothing in contact with the genitals except carbolised or sublimated cotton-wool, or pieces of linen freshly washed and soaked in the antiseptic solution. She must never use sponges. Not even to facilitate the labour should she let the fingers remain in the vagina and she must not anoint the nails with greasy substances.

Article 6.—The labour having terminated the midwife is to examine the placenta and membranes attentively and in case they are incomplete to keep them for the inspection of the doctor. She will then practise a vaginal irrigation with the antiseptic lotion, remove the soiled linen from beneath the patient, directing it to be taken out of the room and finally see that the floor of the room is also thoroughly cleansed of all extraneous matter.

Article 7.—During the first eight days the midwife will visit the patient if possible twice daily taking her temperature each time and ascertaining the condition of the lochia and watching carefully the course of the puerperium.

Article 8.—During the first five days she must wash the external genitals carefully with the antiseptic solution and in cases of suspected lochia also wash out the vagina with the solution, calling in the doctor in terms of Article 3 of the regulations. Either the irrigator or pieces of freshly washed linen or antiseptic cotton-wool soaked in the antiseptic solution should be used for the washing. She should also see that the linen worn by the patient is always fresh from the wash when put on.

Article 9.—The eyelids and the parts around the eyes of the new-born infant are to be washed by the midwife with the antiseptic solution and if any inflammation of the eyes should develop later the doctor should be called immediately, frequent use being meanwhile made of the boric lotion.

Article 10.—When any cases of puerperal fever break out in the locality where the midwife is practising or in the neighbourhood she must attend with the most scrupulous care to these regulations and instructions.

Article 11.—A midwife who has come in contact with a puerperal patient suspected to be suffering from puerperal fever or from uterine inflammation must in terms of Article 6 of the present regulations abstain from the exercise of her profession for five days. In case of absolute necessity this period may be shortened with the permission of the local medical officer, given in writing. During this time she will change her clothing and the linen she wore while with the patient and disinfect them by immersion for ten minutes in boiling water. Further, she will repeatedly wash the hands and forearms with the antiseptic solution according to the rules laid down in Clause 3 of Article 2 of these instructions. In communes where there is a disinfecting station the midwife will consign to the municipal authorities the clothing she wore when in attendance on the puerperal fever patients in order that they may be disinfected.

Article 12.—The instruments used by the midwife must be cleansed and disinfected every time they have been in use by immersing them in water brought to the boiling point and then allowing them to remain in the antiseptic solution. For gum-elastic instruments it will be sufficient to wash and to immerse them in the antiseptic solution.

THE FEES OF MEDICAL WITNESSES.

THE report issued by the departmental committee appointed by the Home Secretary to inquire into the allowances made to prosecutors and witnesses in criminal proceedings was discussed in THE LANCET of July 18th, 1903, p. 182. The regulations since made by Mr. Akers-Douglas as the result of that report came into force on Dec. 28th, 1903, and apply to all criminal prosecutions—that is, to petty sessions as well as to quarter sessions and assizes. As far as they affect medical men giving professional evidence they are as follows: "There may be allowed, for attending to give evidence in the town or place where the witness resides or practises, if the witness attends to give evidence in one case only, not more than one guinea per diem; if the witness gives evidence on the same day in two or more separate and distinct cases not more than two guineas. For attending to give evidence elsewhere than in any town or place where the witness resides or practises, whether in one or more cases, not more than two guineas per diem. In this regulation 'town' means municipal borough or urban district and 'place' means the area within a radius of three miles from the court at which the witness attends to give evidence. There may be allowed to expert witnesses such allowances for attending to give expert evidence as the court

may consider reasonable, including, where necessary, an allowance for qualifying to give evidence."

The following general regulation applies to all witnesses and so affects medical men: "No full-day allowance shall be paid unless the witness is necessarily detained away from his home or place of business or employment for at least four hours for the purpose of giving evidence. If the time during which the witness is necessarily detained away from his home, or place of business, or employment, be less than four hours, he shall receive not more than one half of the allowance which he would have received had he been detained for the full day."

The regulations quoted are not characterised by perfect lucidity and it is not impossible that disputes may arise as to their construction or that different practices may prevail where costs are taxed by different officials. It seems clear, however, that the medical witness in one case at petty sessions should now receive a guinea where he resides or practises within three miles of the court, an additional guinea if he resides beyond that distance, and not more than half these fees should he be detained for less than four hours. This latter condition is very objectionable in that the medical witness never knows beforehand for how long he will be wanted and his detention for three and three-quarter hours must necessarily dislocate his work for the whole day in addition to the necessity which he may feel for making provision for a whole day's absence. This is the case at assizes and at quarter sessions more than when the case is to be heard at petty sessions. Beyond this the new regulation is a gain to the medical profession so far as petty sessions are concerned, as the maximum fees before were half a guinea if the witness resided within two miles of the court and a guinea beyond that distance. We believe that at some petty sessional courts no fees have been paid to medical witnesses. This condition should cease now that fresh regulations have been issued clearly sanctioning their payment in all cases. The regulation says that "not more than" the sums named should be allowed but medical men will resist any attempt to curtail fees which in most cases will be insufficient to recoup them.

It seems clear also from the regulations quoted that the medical witness who proceeds in due course to give at assizes or at quarter sessions evidence relating to one indictable offence will receive a guinea per day while waiting and a guinea or half a guinea, according to circumstances, on the day on which he gives evidence and that he will receive two guineas instead of one when he resides or practises more than three miles from the court. What is to happen, however, when he attends a court to give evidence in two or more distinct cases is not quite so plain but apparently he will be allowed only one guinea per day until all the cases in which he appears are concluded, with the exception that if by chance two or more of them are heard upon the same day he will then be paid two guineas. The rule as to residence or practice at a distance will help him to the extent that he may receive two guineas a day instead of one, but that sum will not be exceeded for any day in however many cases he may have to give evidence. This regulation is a gain to the medical profession in that under the old system of payment it was not possible for a medical witness to receive more than a guinea for any one day, in however many cases he was heard or from whatever distance he came. It is insufficient and unjust in that it still leaves the witness who has to give evidence in more than one case without extra remuneration unless a purely fortuitous incident happens—that is to say, unless two of his cases are tried upon the same day. He has the anxiety inseparable from giving evidence upon scientific questions, where the liberty, perhaps the life, of a fellow creature is at stake, imposed upon him owing to the fact that he is a member of a certain learned profession. That anxiety is multiplied by whatever number of cases he may be concerned in and yet, except on the happening of the contingency mentioned, he is still to receive no addition to an already inadequate compensation. On the other hand, the fund from which the fees which should be his are drawn is to profit to the extent sometimes of many guineas wherever chance directs that the same medical witness shall appear in more than one trial instead of different medical men being called in each.

With regard to travelling allowances, the new regulations applicable to all witnesses are as follows: "There may be allowed to witnesses attending court to give evidence from a distance of more than two miles their railway fares actually paid or (where a railway is not available) reasonable expenses of conveyance actually incurred: provided (1) that the railway fare, except for special reasons allowed by the court, shall be third-class fare and that if return tickets are available only return rates shall be allowed; (2) that the expenses of conveyance otherwise than by railway shall not in any case (except where a special conveyance is required for a witness suffering from serious illness) exceed 1*s.* a mile one way. Such expenses shall be allowed separately as mileage." This means that in the majority of cases third-class railway fares and no more will be allowed to medical witnesses where railways are available. We have before us in addition to the regulations a memorandum issued by the Home Office to those who are to administer them and upon this head the following observation is made: "The question whether a railway fare in excess of third class is to be allowed in any case will mainly depend on what may be reasonably supposed to be the witness's ordinary habit and practice. First-class fare should not be allowed even to a professional witness unless there is reasonable ground for supposing that he ordinarily travels first class." This, we maintain, is not just to the professional witness who as a general rule is a medical man. Without discussing the "ordinary" habits of medical or of other professional men, we would point out that few of them would care to travel to and from an assize town in third-class carriages, crowded with police and other witnesses for the prosecution or defence, with accused persons on bail, and with prosecutors, male or female, whom they have examined for the purpose of giving evidence and to whom they are well known by sight. First-class fares should be paid without question to all professional witnesses, or, indeed, to all witnesses for whom they are reasonable in the circumstances described. The new regulations take the place of a mileage of 3*d.* each way so that they show a decrease of allowance where railway fares are necessary and an increase where railways are unavailable.

With regard to the expenses of professional witnesses detained for the night away from their homes, the regulations are silent while they provide for those of other witnesses. This means that the medical man will not in future on such occasions be allowed the ridiculous sum of 2*s.* 6*d.* to which he has been accustomed but will have to pay his hotel bill out of the extra guinea which he receives when his residence is more than three miles away. This is a gain to a certain extent but here again chance is left to determine the amount which the witness is to have. In other words, where the trains happen to be so arranged or the distance chances to be so great that the medical man is kept from returning home (to his own increased inconvenience) he will further have to spend a large proportion of the amount paid to him by way of compensation in defraying the cost of his necessary board and lodging.

One more matter remains for comment. It will be observed by those who study the new regulations that a recommendation of the committee which considered the conditions until recently prevailing has been ignored. This was that "for a medical examination in cases of sexual and kindred offences there may be allowed a special fee of one guinea for each person examined in addition to any allowances for giving evidence." An explanation is to be found in the memorandum to which we have already referred and we are glad to have it before us. The memorandum says: "Were this fee inserted in a table of fees to witnesses it would, of course, be payable only where the examination leads to a prosecution in which the medical man who made the examination is called as a witness. It appears to the Secretary of State to be wrong in principle that a medical man should be placed in the position of earning a fee if he recommends a prosecution and of receiving nothing if his report negatives the institution of proceedings. In such cases the medical man makes the examination as the adviser to the police or to the prosecutor, and he is entitled to receive an appropriate fee whether the examination is or is not followed by criminal proceedings." The difficulty which arose not long ago in Suffolk in obtaining any medical man to make an examination in connexion with an alleged sexual offence was largely responsible for the appointment of the departmental committee which made the recommendation quoted above, and we would suggest that all medical men likely to be summoned to make the examinations referred to should note the terms of the Home Secretary's memorandum and should consistently decline to make such examinations whenever

they have reason to believe that they will not be paid a separate and adequate fee for doing so.

We shall observe with interest the application of the new regulations to medical witnesses in petty sessional courts and at quarter sessions and assizes during the year which has now commenced. The medical profession perhaps gains more by them than does any other profession or employment but even when we admit this we are entitled to say that the gain is not great and that assisting the cause of justice in the criminal courts will remain in many instances an unpleasant duty involving considerable anxiety and trouble, together with pecuniary loss, for which but inadequate compensation is provided.

THE REGIUS PROFESSORSHIP OF MEDICINE AT OXFORD.

A MEETING of the medical graduates of the University of Oxford was summoned at very short notice for Tuesday afternoon last to consider the question of the appointment of a successor to Professor Sir John Burdon Sanderson who is retiring from the Regius Professorship of Medicine. Sir WILLIAM S. CHURCH, President of the Royal College of Physicians of London, took the chair, and 40 out of 60 specially invited graduates, practically all of whom are engaged in teaching, were present, the names representing some of the best known members of the medical staffs of the metropolitan hospitals. Sir William Church made a brief exposition of the situation, showing that it was intended to recommend Dr. J. Ritchie, the present Reader in Pathology, to the vacant post. The following statement, after some discussion, was then agreed to and signed by all present save two or three:—

> We learn that it has been suggested by certain teachers in Oxford that the present Reader in Pathology should be appointed Regius Professor of Medicine. We understand that the chief argument in favour of that proposal is that in this way the emoluments of the chair of medicine might be made to supplement the income of the *Reader* in Pathology. We beg leave to protest very strongly against this proposal for the following reasons:—The work of the medical student of Oxford falls into two parts; the first part is preparatory and done in Oxford, the second part is clinical and done elsewhere at the large clinical schools. The first part is represented in Oxford by the professors of the various sciences; the second part can only be represented by the Regius Professor. The Regius Professor is responsible for the organisation, direction, and conduct of the final examinations in Oxford, which give the licence to practise, and should himself take part in them as the Regius Professor used to do. He has also to adjudicate and advise the University upon the theses presented for the M.D. degree. The Regius Professor ought, therefore, to be a physician of great experience in clinical work and clinical teaching; he ought to be thoroughly familiar with the system of instruction at the large medical schools and with all the details of the student's clinical work. He ought to be fully conversant with the requirements of the licensing and examining bodies and of the Medical Council. He ought to have the requisite knowledge to enable him to guide wisely the deliberations of the board of the faculty of medicine in these respects and to bring into harmonious relation the work of the student of medicine in Oxford with his work in the clinical school. As the Regius Professor is the representative of the University in medicine, not in Oxford only, but in the world at large, he ought to be a man of established reputation in medicine and one who could worthily uphold the dignity of the University in the estimation of the profession and of the public. He ought to be a man who could be accepted as the leader and representative in Oxford of the medical graduates, and one to whom they would all with confidence give their loyal support, for without this support the medical school in Oxford cannot prosper as it should. On these grounds we think it desirable that the Regius Professor should, if possible, be an Oxford man. The proposal to convert the Regius Professorship of Medicine into a professorship of any single branch of medical study is a question of vital importance to the status of medicine in the University and to the welfare of the medical school. We do not ourselves think this change desirable, but it is, at any rate, a question not lightly to be decided. The Regius Professor has important practical duties to discharge in Oxford. He alone is in a position to coordinate the various departments forming the medical curriculum, a task for which technical knowledge and wide clinical experience are essential."

The following two motions were passed:—

> (1) That in the opinion of this meeting the Regius Professor of Medicine should be a physician who is representative of medicine in its widest sense. (2) That it would be detrimental to the best interests of medicine in Oxford if the Regius Professorship were converted into a professorship of any one branch of medical study.

A deputation has been appointed to wait upon the Chancellor of the University, with whom Sir William Church is already in private correspondence. This deputation will express the views of the meeting of medical graduates. The question of suggesting any person to fill the appointment, it is agreed, shall be left to the discretion of Sir William Church. Throughout the meeting no name was mentioned and no personal references whatever were made to Dr. Ritchie, the objection to his appointment being wholly upon public grounds.

THE ANNUAL REPORT OF THE CHIEF INSPECTOR OF FACTORIES AND WORKSHOPS FOR THE YEAR 1902.

PART I. REPORTS.

FIRST NOTICE.

THE annual report of the Chief Inspector of Factories and Workshops for the year 1902 consists of (1) The general report on the factory department during the year with eight appendices which deal respectively with: (i.) Laundries connected with religious and charitable institutions. This is a circular addressed to the managers of these undertakings asking if they wish to receive visits from the factory inspectors or from a woman inspector. It may be here said that various answers were returned and it was found in the institutions which were visited that the management was usually satisfactory. (ii.) Ventilation: a digest of results of analyses of air in factories and workshops, based upon the Report of the Ventilation Committee. This is a valuable table showing in detail the effects of artificial ventilation in cases in which gas is and is not used. The air examined was taken from factories and workshops used for weaving, tailoring, cotton spinning, and a variety of other trades. (iii.) The particulars of a prize given by the Society of Arts for a dust arresting respirator to be used in dangerous trades. The prize consists of a gold medal or £20 in cash and the details of the competition may be obtained by anyone who applies to the secretary of the society, John street, Adelphi. (iv.) Sanitary accommodation orders dated respectively August, 1902, and February, 1903, with a circular issued on Feb. 16th, 1903. The latter is of interest because it gives a definition of what in the opinion of the Home Office is meant by the words "sufficiently lighted" when applied to sanitary conveniences. These words we are told do not require that a brilliant light should be provided "such as would be required for reading." In some cases the conveniences are now left in total darkness and this will no longer be allowed. (v.) "The suggested requirements for underground bakehouses" is a paper which contains useful rules in regard to the construction, lighting, and ventilation of underground bakehouses written for the guidance of medical officers of health in advising sanitary authorities as to the conditions needed in order to conform with the requirements of the Factory and Workshops Act. The recommendations made in this paper were adopted by the Incorporated Society of Medical Officers of Health and their general and uniform acceptance throughout the country would prove of service to the community at large. (vi.) A circular was issued to the manufacturers of earthenware and china in April, 1902, and a copy of this is given in the report. The determined fight made against the Home Office draft rules is now a matter of history. (vii.) Draft regulations in regard to file cutting. (viii.) A synopsis of requirements of "particulars" to be supplied by manufacturers in regard to piecework in various industries. In the past weavers and hosiers have perhaps suffered most from the chicanery of their employers.

(2) The sectional reports (pp. 1–295). The reports are made by the superintending inspectors of the five great divisions into which Great Britain and Ireland are divided; by the principal woman inspector, the examiner of textile particulars, the inspector of humid textile fabrics, the electrical inspector, and the medical inspector. The report of the last named contains appendices on anthrax in horsehair, and on the disinfection of horsehair—subjects to which attention will be given later,—on the Belgian linen factories, and on the process of "vulcanising" by means of carbon disulphide.

(3) Special reports (pp. 296–335). These are three in number and deal respectively (i.) with dangerous and injurious processes in the enamelling and tinning of metals, (ii.) methods of removing dust in iron foundries and machine shops, and (iii.) ship-building accidents.

(4) Statutory orders (pp. 336–347). The orders issued

during the year by the Board of Trade and the Local Government Board for Scotland make regulations in regard to: (i.) Workshops used as sleeping places. (ii.) Newspaper printing. (iii.) The standard of ventilation to be adopted in certain humid textile factories. (iv.) Form of requisition to be used for obtaining birth certificates in Scotland when they are required for purposes of the Factory and Workshops Act. A similar regulation was already in force in England but not in Scotland (for the power of making the order was vested in the Local Government Board of that kingdom). (v.) Regulations as to lime washing electric generating works and lace factories. (vi.) Regulations for hosiery factories in regard to the "five hours' spell." (vii.) Regulations as to hours, intervals and Sunday employment in creameries. (viii.) Conditions of special exemption in regard to fruit preserving. (ix.) Regulations in regard to overtime in butter- and cheese-making. (x., xi., xii.) Regulations as to particulars of piecework wages for labour on chains, anchors, cast gear, locks, and latches. (xiii.) Regulations as to night work in lead and zinc. During the year the following processes were officially certified as "dangerous" with a view to the issue of regulations in regard to them: (i.) The manufacture of felt hats with the aid of inflammable solvent. (ii.) The process of file cutting by hand. (iii.) The process of loading, unloading, moving and handling goods in, on, or at any dock, wharf, or quay, and the process of loading, unloading, and coaling any ship in any dock, harbour, or canal. This may be fittingly described as a large order. It will doubtless prove of use but anyone who has even a superficial knowledge of English shipping will at once see that anything like general supervision is in many cases absolutely impossible. For example, the loading of ships with sand and ballast in river estuaries is a most irregular industry both in point of time and of place.

The important part of the report which deals with the routine work of the superintending inspectors naturally occupies a large part of the book. On a former occasion some account was given in THE LANCET[1] of the way in which the country was partitioned into five great "divisions" each of which is presided over by a superintending inspector and some reference was made to the distribution of the various trades which came within the purview of the officers of the Board. It is needless to travel again over the same ground and it is impossible to refer more than briefly to the work which has been accomplished during the time under review. There is less cause to regret this because in the present report for the first time the superintending inspectors' remarks are grouped under distinct headings and it is therefore easy for any intelligent reader to find without great loss of time any information contained in the reports which he wishes to learn. We must congratulate Dr. B. A. Whitelegge in having at length carried out an improvement on the necessity of which we have had more than once to insist, and we may hope that this change will naturally lead to the further advance of giving a complete index which would greatly add to the value of the reports for purposes of reference. At the end of the year 1902 there were 100,424 factories and 145,721 workshops on the registers of the department and the number of visits paid to them by the inspectors amounted to something like 350,000. It seems rather curious that although the Factory and Workshops Acts have been made for the protection of the workers yet in some cases the latter connive at, and even appear to encourage, irregularities or, to put it more strongly, illegalities which are practised by the employers. The most remarkable example of this is the practice of "time-cribbing," as it is called—a system by which machinery is run for a period in excess of that allowed by the law and in consequence of which the work-people are employed for a period in excess of the time allowed by the law and therefore of the number of hours for which they are paid. We have referred to the matter before. It has proved that the paltry fines incurred by the employers when they are convicted of the theft are quite inadequate.

It is interesting to note that of late there has been a tendency to transfer large works from the Midlands to the coast in order to save the great expense incurred in railway charges for transit and to escape from heavy local rates.

The number of accidents reported during the year was 90,395 and of these 1110 were fatal. The particulars of the incidence of these are reserved for the second report. The chief inspector of the north-eastern division, Mr. W. A. Beaumont, deals at length with the causation of some of the more common accidents. Only a few of the best chain makers, it seems, will guarantee the strength of the goods which they supply and it is suggested that "payment by piece encourages bad or slipshod work in chain making." As a result of his experience Mr. Beaumont has drawn up a number of suggestions in regard to prevention of accidents from the fracture of lifting tackle. The matter is one of such urgency and importance that it seems that some regulations on the lines suggested are immediately required and we can see no reasonable objection to the rules proposed, which are (1) that one or more trustworthy men should be made responsible for all ropes and chains used in a factory; (2) that every chain should be numbered and a record kept of its use; that the user should also be informed of the safe working load for a chain or rope; (3) that every chain should be periodically annealed and examined and that a wedge gauge may be used in each link to give an indication of the amount of wear—when this exceeds a certain allowance the link should be removed from the chain; and (4) that ropes should also be periodically examined and when they exhibit the least sign of deterioration they should be burnt to prevent further use.

The least satisfactory part of Dr. Whitelegge's report is that which deals with the impurity of the air of factories and workshops and with ventilation. It is evident from the report that the inspectors are encouraged to neglect, or at least to abstain from, taking specimens of air from workshops at all times. We are by no means prepared to admit that the standard of air (as judged by the amount of permissible impurity on de Chaumont's method) adopted as legal is too high. The fight against the legality of the continued existence of fœtid air in workshops and factories has been a long one. Thanks to the persistent efforts of those who had the good of the work-people at heart, and particularly to Sir Henry Roscoe, the statute-book was ultimately enriched by an Act the provisions of which rigidly carried out would have proved to be the greatest blessing. An attempt is apparently now being made by those appointed to carry out the working of the Act to evade its provisions, or, as Dr. Whitelegge calls it, "to deviate somewhat from the letter of the law."

The report of His Majesty's women inspectors of factories is much more diffuse than that of the other inspectors but it contains some interesting details. Amongst other things an account is given of modern dressmaking, from which it appears that Englishwomen are using more and more ready-made goods of foreign origin and that the more expensive of these goods come chiefly from Paris and from Vienna, whilst the cheaper are made in England. The London dressmaker is being ousted by factory work. "For good or for evil," and in the opinion of the chief woman inspector "on the whole decidedly for the good of workers and consumers, the great mass of our countrywomen of artisan and manual labouring classes and of the upper and middle classes are already being largely clad in ready-made dresses and mantles and millinery supplied by factory organisation."

A curious and interesting note is given on the decline of a very old industry—the manufacture of clay pipes. The increased use or abuse of cigarettes is, of course, one obvious cause of this but another is mentioned which would hardly have been suspected. It is said that the working of the Act prohibiting the sale of alcoholic drinks to children has had a great effect in the same direction. The youngsters whose former duty it was to fetch the evening beer were accustomed to beg for a pipe, and under the new law it is much to be feared that the instructive and pretty practice of blowing soap bubbles will become a lost art.

Electrical generating stations and transforming sub-stations were brought under the jurisdiction of the Home Office under the Factory and Workshop Act, 1901, which it may be remembered came into operation on Jan. 1st, 1902. Mr. G. Scott Ram was appointed as electrical inspector by the Home Office. He entered upon his duties in May and his first report therefore embraces a period of eight months. The increased and increasing use of electricity will make this new department an extremely important one and it may be useful to describe briefly the condition of things which Mr. Ram found on beginning his duties. In the first place it must be pointed out that from a legal point of view a distinction must be made between electrical stations which supply energy for public use and sale and those

[1] THE LANCET, Jan. 31st, 1903, p. 325.

which belong to industrial undertakings or to private individuals and which supply electrical energy for their own use. The "public" undertakings, as they may be called, are in general working under provisional orders of the Board of Trade and include the electric supply companies and not a few local authorities. Amongst the "private" undertakings are included engineering works, dock companies, factories, and railway companies—except those railways which use electrical energy as the motive power. It is, moreover, held that electrical stations which actuate traction do not come within the scope of the Act. There is, however, an increasing number of stations where the power is generated both for traction and for public supply and these naturally come under the inspection of the factory department.

Mr. Ram commenced his duties by visiting a large number of representative types of generating stations in England, Ireland, and Scotland. He was chiefly concerned to notice what precautions were observed for the protection of the workmen, to find out the conditions under which the work was carried on, and to see whether he ought to advise for adoption any special regulations and, if so, what these should be. Mr. Ram considered that it was also of interest to ascertain how far the recommendations drawn up by the Board of Trade Dangerous Trades Committee (1897) "are now applicable in view of the advance made in electrical matters since that date." Professional electrical engineers as a body are strongly of opinion that a higher pressure than that recommended as a maximum shall be allowed and Mr. Ram appears to feel in no way bound by the recommendations of 1897.

The result of the general inspection of the stations visited showed that there were a great diversity of operation and an entire absence of any standard method even amongst the factories which were nominally worked on the same system. This state of things is said to be due to the rapid growth of a new industry and to the introduction into this country of large quantities of machinery of foreign manufacture differing in their modes of work from those previously in use here. Mr. Ram has classified and grouped, according to their electrical characteristics, the systems which he found at work in the course of his survey. It may suffice to say that he found four systems in use for the supply of the continuous current and nine in the case of the alternating current, and that he was able to summarise the distinctions as to the electric pressure of the systems into three groups: 1. Low-pressure system, in which the difference of electric potential is nowhere greater than 500 volts in the case of the continuous current and 250 in that of the alternating current. 2. High-pressure system, in which the difference may exceed the limits in Group 1 but does not exceed 3000 volts. 3. Extra high pressure in which the difference of electric potentials exceeds 3000 volts. Groups 2 and 3 are based on Board of Trade regulations, whilst Group 1 is formed "for convenience" but the term "low pressure" does not imply any degree or property of safety.

Amongst the methods of trade development which will require supervision it is evident that the use of superheated steam is important. It is now in use up to a temperature of 800° F. and a marked economy in the amount used is effected by its use at high tension. The new dangers evolved are evident. A leaky joint will with such a pressure be more serious, an explosion more terrible. The effect of continuous high temperature on the strength of materials will, Mr Ram says, "have to be carefully watched." This may be taken to mean that the danger is foreseen and the inspector has issued his warning. It is, naturally, not proposed that the President of the Board of Trade should personally watch such a boiler or have one on the premises at Whitehall, and should such a duty fall within the scope of his office it is not improbable that he would see the desirability of having a scientific investigation immediately made into so serious a matter. Under the existing conditions it seems not improbable that the question will receive no further notice until a ghastly explosion calls the "attention of the public" to it.

The number of accidents reported in connexion with electrical stations and electricity supply companies and local authorities during the year was as follows:—"Mechanical" (under which heading are included those which took place in connexion with steam engines, boilers, dynamos, and "various"), 106, five of which were fatal. Electrical accidents: burns, 19 cases, in three of which there was injury to the eyesight and one was fatal; and shock, 11 cases, four of which were fatal. In regard to the mechanical accidents the table given is not very complete for no less than 88 of the 106 cases are placed under the heading "various." In his next report no doubt the electrical inspector will insist on being supplied with more complete information and it would not be fair to him to be severe concerning the omission of details which may have been improperly withheld or carelessly noted by those responsible for the reports which were made to him.

In connexion with the increasing use of higher electrical pressures it may be remembered that at the present time the pressure of a supply which may be delivered to a consumer is limited to 250 volts, except in cases in which the express approval of the Board of Trade is obtained. "It is becoming increasingly common," Mr. Ram tells us, "for supplies of electrical energy to be given to consumers at from 250 to 500 volts for power purposes, presumably with the approval of the Board of Trade in each case."

Mr. Ram thinks that there is no objection to the use of the stronger current if the plant is thoroughly efficient and the conditions which are laid down by the Board of Trade are loyally carried out, but he points out that some companies are seeking to supply their customers at high pressure at the motor terminals in order to save the losses connected with the transformation of the current to lower voltages. The powers of the Board of Trade are limited, as we have seen, and the regulations which can be imposed apply directly only to the companies which give the supplies and a consumer may therefore transform the energy to as high a pressure as he pleases. There is, moreover, no legal limit to the pressure at which electrical energy may be generated in factories. In the early days of electric lighting a pressure as high as 2000 volts was often used in the circuits connecting arc lamps and Mr. Ram found that a certain number of these installations still exist and that many of them are in an unsatisfactory state.

The electrical engineer ends his report by giving a summary of conditions which frequently exist and have already caused accidents or which give rise to unnecessary risk. The list deals with switchboards, generating plant, and sub-stations, and, in conclusion, advice is given on questions of general management on the suggestions made. The attention now called to these dangers should prove of great service if the teaching they convey be not neglected. Mr. Wilson (inspector of factories for the Newcastle-on-Tyne district) points out that there is at the present time a feeling of general uneasiness among workmen as to the possible dangers of shock and this is quite natural. There is also, he says, a remarkable ignorance of the laws of electricity amongst all classes—"masters, managers, and men." From this he argues that regulations in regard to its use in factories would be welcomed both by the employers and the employed. It is to be hoped that that suggestion will be carried out.

The general report of the medical inspector is, as usual, of great interest and has the merit of containing for the first time a short but sufficient index. Of the four appendices two deal with anthrax, the third with the Belgian linen factories, and the remaining one with the "vulcanising" process (a translation of a decree of the German Federal Council concerning the erection and management of industrial premises in which indiarubber goods are vulcanised by means of carbon disulphide and chloride of sulphur). It is satisfactory to note that the number of cases of lead poisoning has diminished in each of the 14 branches of industry in which notification is compulsory. The number of reported cases has, indeed, steadily diminished during the last four years, the figures being as follows: for 1899, 1258; for 1900, 1058; for 1901, 863; and for 1902, 629. It is hardly necessary in this place to quote the figures showing the incidence of the poisoning in the various trades and it may be sufficient to mention that the diminution is most marked in the manufacture of electric accumulators, in the smelting of metals, and in file cutting. It is least marked in coachmaking and in printing. Dr. T M. Legge very justly points out that too much stress ought not to be placed on slight improvements which extend over so short a period as a year and it cannot be too strongly stated that lead poisoning is still much more prevalent than it should be. It is somewhat remarkable that although the notification of lead poisoning in house painters is not obligatory more notifications are, in fact, recorded of persons employed in this trade than there are of persons employed in any one industry which is registered under the Factory and Workshop Act.

It is extremely doubtful whether the pernicious effect of

lead on this large class is generally recognised, although it is fully appreciated by those who have had a prolonged experience of the occupations and diseases of the patients treated in the metropolitan hospitals.

A recent decree issued by the French Government is in advance of any measure which has been taken in this country for the protection of house painters. It provides (1) that white lead shall not be used before it has already been worked up in oil and (2) that it shall not be manipulated by hand; (3) that in processes of rubbing down and in all operations in which white lead is used the employers shall provide overalls for the men, shall see that they are washed and kept in good repair, and that they are worn; (4) that articles necessary for insuring cleanliness are to be provided for the workers at the place at which they are working; (5) that the implements of work are to be kept clean without dry rubbing; and finally (6) it is the duty of employers to post the notice containing these regulations at the place in which the workers are engaged.

Poisoning by phosphorus has become rare and only one new case was reported during the year. The patient was the foreman of a "boxing" department, the part of the factory devoted to the packing of matches. The case was one of necrosis of the lower jaw. Two patients died from "pneumonia accelerated by suppuration," the result of phosphorus necrosis of many months' duration.

Eight cases of mercurial poisoning were reported. Of these, two occurred in hatters' foremen—one was a chronic case and the other a second attack. One case occurred in a photograph engraver, aged 23 years, who used perchloride of mercury in the course of his work in which he had been engaged for four years. Three cases occurred in electric metre factories. There was one chronic case of a thermometer maker and one of a man employed in an explosives factory where fulminate of mercury was used in manufacture.

Poisoning by arsenic comes under the notice of the factory inspectors in two distinct forms—(1) poisoning from arseniuretted hydrogen and (2) from arsenical salts. In the first form of poisoning almost all the cases notified have been contracted in factories and workshops in which there has been a deficiency of ventilation, either because the space used was insufficient or because the provisions made for the removal of gases was inadequate. Poisoning from the arsenical salts is caused by the work done in its extraction, in the manufacture of Paris or emerald green (a small industry), and in the manufacture of sheep dip—a compound which contains arsenite of soda.

Anthrax since its first discovery has always attracted a degree of attention out of all proportion to the mortality which it has caused and it is indeed well that this is the case for care bestowed on the preventive measures which have been taken has been rewarded with considerable success. If the writers on the diseases of animals are to be credited anthrax was one of the most common and one of the most terrible of the epizootics of the Middle Ages and it is by no means improbable that amongst men some of the epidemics of sickness may have been due to the same cause. During the year the number of cases of anthrax reported under the Factory and Workshop Act was not very great. In the year 1902 it amounted to ten which occurred in trades in which the manipulation of horsehair forms part and 12 in workpeople engaged in the woollen industry. 11 cases occurred amongst workers in trades connected with the dressing of hides and skins and two cases occurred in porters engaged in unloading oranges. Of the three remaining cases two occurred in men who had been employed in unloading cargoes of grain and wool respectively, and one case was attributed to the handling of buffalo-horns which had come from China. Altogether there were 38 cases.

Dr. Legge points out that it is impossible to forecast with any accuracy what may be the incidence of anthrax in the future and, anticipating the information which will be published in the report on 1903, he tells us that during the first two months of that year as many cases have been reported from the Bradford district as occurred there in the previous year. The columns of THE LANCET have more recently recorded other outbreaks.

There is at the present time no control over the dealers in hair and it is therefore not possible for any public authority to interfere in the matter. A manufacturer may buy hair infected with anthrax and may be entirely ignorant of the danger to which he submits himself and his workpeople. This state of things cannot be considered other than unsatisfactory and it may be hoped that it will be altered. There has in the past been some difficulty experienced in the disinfection of hair and of wool; some of the methods tried have proved to be inadequate and others have injured the goods operated upon. The present volume contains a valuable paper, the second of a series[2] by Mr. Albert Webb of Worcester, who employed Mr. Cecil Duncan, the Worcester county analyst, to carry out a series of experiments. These show beyond doubt the limitations of the use of steam disinfectors and it is to be hoped that the whole paper will meet with the recognition which it undoubtedly deserves.

MEDICINE AND THE LAW.

Burroughs, Wellcome, and Co. v. Thompson and Capper.

THE issues raised in this trial were of importance both to the plaintiff firm and to the medical profession. The former brought their action in order to establish their right to the exclusive use of the words "tabloid" and "tabloids" to describe goods of their manufacture, and as their trade-marks, and the defendants denied this right and sought to have the two words expunged from the register of trade-marks as having been wrongly placed there. The plaintiffs had expended energy, care, and skill, as well as capital, in building up a trade indissolubly connected with the word "tabloid" and many medical men had been accustomed to use that word in prescribing when they desired to specify the drugs of Burroughs, Wellcome, and Co. to the exclusion of all others. To the general public, particularly to those engaged in mercantile pursuits, the case is worthy of attention because it illustrates the defects of a system which allows a trade-mark duly registered in the Government office established for that purpose and used consistently ever since with the fullest possible measure of publicity to be called in dispute 20 years later and possibly to be removed from the Register altogether to the very serious injury of the trader who has expended his capital and his energy in connexion with it. A trade-mark must consist of at least one of certain essential particulars specified in the Patents, Designs, and Trade-marks Acts, 1883 and 1888. Under the latter Act there may be registered as a trade-mark "an invented word or invented words," this expression being substituted for "a fancy word or fancy words not in common use" which corresponded with it in the Act of 1883. The word "tabloid" was registered as a trade-mark in 1884, and the word "tabloids" in 1885, and therefore what the court had to decide was whether "tabloid" or "tabloids" was "a fancy word not in common use" at those dates. With regard to this there was not only the evidence of Mr. H. S. Wellcome as to the invention of the word "tabloid" by him and of those who had associated it only with his products but there was also the testimony afforded by dictionaries and literary works in which it was to be found after that date, whereas no appearance of it in print before could be shown, and it was further proved that where dictionaries had given "tabloids" as a word in common use and of general application in the manufacture of drugs the publishers had either corrected the error on having it pointed out by Messrs. Burroughs and Wellcome or had undertaken to do so. With regard to this, the question of common use as distinct from that of general application to drugs, Mr. Justice Byrne observed in his judgment: "When the word 'tabloid' was first mentioned I quite thought it was a common dictionary word in the language long before 1884, but I am satisfied that this was really due to my acquaintance with the word as used in connexion with the compressed drugs of the particular shape I have described which have become so well known since the year 1884." In a later passage he observes: "Mr. Walter (counsel for the defendants) ingeniously suggested that the plaintiffs have sought to rob the English language by preventing its natural development, in endeavouring to appropriate such a word as 'tabloid,' which he puts as being a natural development of the word 'table' or 'tablet,' but I think it is more correct to say that the plaintiffs have made a gift such as it

[2] The first report was printed on pp. 472-73 of the annual report of the year 1900.

is to the language, while reserving a special use of it to themselves." There can indeed be no doubt that Mr. Wellcome was the inventor and first user of the word tabloid, which has been found expressive, or to use a slang expression has "caught on," and so has been adopted into the English language. With regard to this Mr. Neville, K.C. (counsel for the plaintiffs) submitted to the judge that "tabloid" was so clearly within the Act of 1888 and could so certainly have been properly registered as an "invented" word, had that Act been in force in 1884, that it should be allowed to remain upon the Register even if it did not comply with the requirements of the earlier statute. As, however, Mr. Justice Byrne was satisfied that "tabloid" was "a fancy word not in common use" in 1884 this point did not arise. In so holding he had to consider a number of decisions which have interpreted the expression used in the Act. In particular he had before him the case in which the court was asked to expunge the trade-mark "bovril" from the Register. In that it was laid down that the test was what an intelligent jury would say if they were asked whether the word bovril was a fancy word not in common use at the date upon which it was registered. In the Bovril case, as in that of "tabloids," the apparent derivation of the word was gone into and the question was raised whether it was too "descriptive" of the matter to which it was applied to be a good fancy word, but it was held that though "bov" might suggest an ox the word "bovril" at the time of registration was not descriptive and this decision was followed by Mr. Justice Bryne who said: "I think the case is near the line, but treating it as a matter of fact in the particular case I come to the conclusion that in March, 1884, the word was not 'really intelligibly describing the thing sold,' which is the way in which Lord Lindley in the Bovril case puts the form of direction to the jury."

To whatever extent the decision of Mr. Justice Byrne may be held to be one of law it is no doubt subject to revision upon appeal and, as it is possible that such appeal may follow, the law applied in it to the word "tabloid" has been stated above without criticism. With regard to facts held by the learned judge to have been proved, which include those relating to the "passing off" of other goods as those of the plaintiffs' firm, Mr. Justice Byrne expressed himself as perfectly satisfied with the evidence upon this particular topic. He drew special attention to those instances as to which evidence was given where the initials "B. & W." were added to the word "tabloids" in the request for the goods named. In this connexion his lordship said: "I have specially mentioned these three cases because there was a passing off where the goods were not denoted as 'tabloid' or 'tabloids' only but in such a way as to make it absolutely certain that the plaintiffs' goods were referred to by the use of their name or initials. There were nine other cases where the goods required were referred to as 'tabloid' or 'tabloids.' In all 12 cases were proved." The injunction which he granted with regard to the course of dealing thus shown to have been carried on by the defendants will be of value not only to the firm which has obtained it but to the medical profession at large and to their patients. It is not necessary to go into the reasons which may cause a medical man to specify the drugs of Messrs. Burroughs, Wellcome, and Co. or of any other firm in writing his prescription in order to say that he does so with good cause and that he should be able to do so with confidence that his direction will be carried out. On the whole, we have no doubt that the success achieved by Messrs. Burroughs, Wellcome, and Co. in their recent action will prove to be both to them and to others worth the anxiety, trouble, and money which it must have cost them. We may also be allowed to express the opinion that the state of uncertainty which affects a trade-mark even after it has been duly placed upon the Register is not satisfactory or desirable. Registration even after a number of years does not protect the mark from liability to be removed by the order of the court. Such statutes as those relating to patents and trade-marks are drawn by eminent experts in legal draughting and are no doubt subject to rigid scrutiny before they become law. It is, however, a matter of regret that the use of meagre and ambiguous phrases such as those which we have quoted with reference to trade marks consisting of words should leave the law in a state of uncertainty continuing for many years and necessitating for its elucidation the expenditure of thousands of pounds by private members of the community.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 9378 births and 5944 deaths were registered during the week ending Jan. 2nd. The annual rate of mortality in these towns, which had been 19·2, 17·8, and 15·4 per 1000 in the three preceding weeks, rose again last week to 20·6 per 1000. In London the death-rate was 21·1 per 1000, while it averaged 20·3 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 10·0 in Hornsey, 11·5 in King's Norton, 11·9 in South Shields, 12·7 in Handsworth, 13·6 in Coventry, 13·9 in Northampton, 14·1 in Leyton and in Derby, and 14·2 in Walthamstow; the highest rates were 24·1 in Stockton-on-Tees, 24·2 in Ipswich, 24·5 in Newport (Mon.), 24·9 in Brighton, 26·8 in Liverpool, 31·3 in Merthyr Tydfil, 32·4 in Preston, 33·6 in Wigan, and 35·1 in York. The 5944 deaths last week included 495 which were referred to the principal infectious diseases, against 423, 423, and 389 in the three preceding weeks; of these 495 deaths 152 resulted from measles, 135 from whooping-cough, 68 from diphtheria, 64 from diarrhœa, 38 from "fever" (principally enteric), 35 from scarlet fever, and three from small-pox. No death from any of these principal infectious diseases was registered last week in Tottenham, Hastings, Brighton, Bournemouth, Devonport, Burton-on-Trent, Grimsby, Derby, Wallasey, Warrington, Huddersfield, Middlesbrough, Tynemouth, or Newport (Mon.); among the other towns the highest death-rates from these diseases were recorded in Willesden, Birmingham, Bootle, Wigan, Blackburn, Preston, York, and Stockton-on-Tees. The greatest proportional mortality from measles occurred in Willesden, Ipswich, Birmirgham, Blackburn, Preston, Leeds, Rotherham, and Cardiff; from scarlet fever in Wigan; from diphtheria in Reading; from whooping-cough in Portsmouth, Walsall, Liverpool, Bootle, Wigan, Leeds, York, and Swansea; from "fever" in Bootle; and from diarrhœa in Southampton, Rochdale, and Stockton-on-Tees. Of the three fatal cases of small-pox registered in these towns last week one belonged to Nottingham, one to Bolton, and one to Sunderland. The number of small-pox cases remaining under treatment in the Metropolitan Asylums hospitals, which had been 32, 26, and 27 on the three preceding Saturdays, had declined again to 26 on Saturday last, the 2nd inst.; four new cases were admitted during the week, against two, six, and seven in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital was 1632 at the end of last week, against 1717, 1654, and 1617 at the end of the three preceding weeks; 194 new cases were admitted during the week, against 173, 188, and 142 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 417, 344, and 271 in the three preceding weeks, rose again last week to 404, and were 61 above the number in the corresponding period of last year. The causes of 97, or 1·6 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Salford, Leeds, Hull, Newcastle-on-Tyne, and in 40 other smaller towns; the largest proportions of uncertified deaths were registered in Handsworth, Grimsby, Liverpool, St. Helens, Barrow-in-Furness, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 22·4, 20·9, and 20·8 per 1000 in the three preceding weeks, increased again to 21·7 per 1000 during the week ending Jan. 2nd, and was 1·1 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·7 in Leith and 16·5 in Greenock, to 24·6 in Glasgow and 27·9 in Perth. The 712 deaths in these towns included 26 which were referred to measles, 21 to diarrhœa, 14 to whooping-cough, five to small-pox, two to scarlet fever, two to "fever," and one to diphtheria. In all, 71 deaths resulted from these principal infectious diseases last week, against 73, 61, and 73 in the three preceding weeks. These 71 deaths were equal to an annual rate of 2·2 per 1000, which was 0·5 per 1000 above the mean rate last week from the same diseases in the

76 large English towns. The fatal cases of measles, which had been 34, 33, and 25 in the three preceding weeks, rose again last week to 26, of which 23 occurred in Glasgow and two in Paisley. The fatal cases of diarrhœa, which had been 15, 10, and 16 in the three preceding weeks, further rose to 21 last week, and included 10 in Glasgow, four in Edinburgh, four in Dundee, and two in Aberdeen. The deaths from whooping-cough, which had been 13, nine, and 16 in the three preceding weeks, declined again last week to 14, of which six were registered in Glasgow, four in Edinburgh, and four in Aberdeen. The fatal cases of small pox, which had been one, two, and four in the three preceding weeks, further rose to five last week, and all occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 192, 184, and 180 in the three preceding weeks, further declined last week to 177, but were 19 in excess of the number in the corresponding period of last year. The causes of 29, or more than 4 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·6, 25·6, and 19·9 per 1000 in the three preceding weeks, rose again to 31·8 per 1000 during the week ending Jan. 2nd. During the 13 weeks ending on that date the death-rate has averaged 23·3 per 1000, the rates during the same period being 16·6 in London and 16·7 in Edinburgh. The 231 deaths of persons belonging to Dublin, registered during the week under notice, showed an excess of 86 over the number in the preceding week, and included 16 which were referred to the principal infectious diseases, against 11, 10, and seven in the three preceding weeks; of these, 12 resulted from whooping-cough, two from "fever," one from measles, and one from scarlet fever, but not any from small-pox, diphtheria, or diarrhœa. These 16 deaths were equal to an annual rate of 2·2 per 1000, the death-rates from the principal infectious diseases last week being 1·9 in London and 1·6 in Edinburgh. The fatal cases of whooping cough, which had been seven, four, and three in the three preceding weeks, rose again last week to 12. The deaths from measles, scarlet fever, and "fever" corresponded with the respective numbers in the preceding week. The 231 deaths in Dublin last week included 36 of children under one year of age and 60 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons were considerably in excess of the numbers recorded in the preceding week. 11 inquest cases and six deaths from violence were registered, and 82, or more than a third, of the deaths occurred in public institutions. The causes of nine, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: A. F. Harper to the *Melampus* and W. G. Stott to the *President* for three months' study in civil hospital (dated Jan. 7th) and F. W. Stericker to the *Doris* (dated Dec. 31st). Surgeons: H. G. T. Major to the *President* for three months' study at civil hospital, A. E. Mereweather to the *Wildfire*, and R. Thompson to the *Aurora* (dated Jan. 7th).

ARMY MEDICAL STAFF.

Surgeon-General Sir W. D. Wilson, K.C.M.G., is placed on retired pay (dated Jan. 1st, 1904).

1ST LIFE GUARDS.

Surgeon-Lieutenant Basil Pares to be Surgeon-Captain (dated Nov. 14th, 1903).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel W. J. R. Rainsford, C.I.E., to be Colonel, vice J. F. Supple, C.B., retired (dated Dec. 14th, 1903).

Colonel W. E. Saunders, C.B., is transferred from the Poona to the Meerut and Bundelkhund Districts, but will continue to officiate as Principal Medical Officer, Bombay Command, until relieved by Surgeon General Gubbins.

IMPERIAL YEOMANRY.

Westmorland and Cumberland: Surgeon-Captain J. E. Bowser to be Surgeon-Major (dated Jan. 2nd, 1904).

VOLUNTEER CORPS.

Royal Engineers (Volunteers): 1st Devonshire and Somersetshire: Surgeon-Major G. B. Fraser to be Surgeon-Lieutenant-Colonel (dated Jan. 6th, 1904).

Submarine Miners: The Severn Division: Surgeon-Captain W. L. Edwards to be Surgeon-Major (dated Jan. 2nd, 1904).

Rifle: 19th Middlesex (Bloomsbury): Surgeon Captain W. N. Evans, from 1st Volunteer Battalion Middlesex Regiment, to be Surgeon-Captain, and to be borne as supernumerary whilst commanding the Bearer Company of the 5th London Volunteer Infantry Brigade (dated Jan. 6th, 1904). Supernumerary Surgeon Captain J. G. Fraser, commanding 5th London Volunteer Infantry Brigade Bearer Company, resigns his commission (dated Jan. 6th, 1904). 3rd (Duke of Connaught's Own) Volunteer Battalion, the Hampshire Regiment: Surgeon-Lieutenant G. F. Morley to be Surgeon Captain (dated Jan. 6th, 1904). 1st Volunteer Battalion, the Leicestershire Regiment: Supernumerary Surgeon Captain W. P. Peake, also commanding Leicester and Lincoln Volunteer Infantry Brigade Bearer Company, resigns his commission (dated Jan. 6th, 1904). 4th Volunteer Battalion, the Cheshire Regiment: Henry George Smeeth, to be Surgeon-Lieutenant (dated Jan. 6th, 1904). 5th Volunteer Battalion, the Cheshire Regiment: Surgeon-Lieutenant E. J. W. Carruthers to be Surgeon-Captain (dated Jan. 6th, 1904). 1st Volunteer Battalion, the Royal Welsh Fusiliers: Captain J. E. H. Davies resigns his commission and is re-appointed Surgeon-Captain (dated Jan. 2nd, 1904). 4th Volunteer Battalion, the King's (Liverpool Regiment): Surgeon-Captain R. Fielding-Ould resigns his commission (dated Jan. 6th, 1904). 4th (Donside Highland) Volunteer Battalion, the Gordon Highlanders: Surgeon-Captain J. O. Wilson to be Surgeon-Major (dated Jan. 2nd, 1904). 1st (Inverness-shire Highland) Volunteer Battalion, the Queen's Own Cameron Highlanders: Surgeon-Lieutenant-Colonel (Lieutenant Colonel, retired, I.M.S.) T. R. Macdonald resigns his commission (dated Jan. 2nd, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Manchester Companies: Captain J. W. Smith resigns his commission (dated Jan. 6th, 1904).

VOLUNTEER INFANTRY BRIGADE.

Worcester and Warwick: Major W. J. Whitcombe, commanding Brigade Bearer Company, to be Brigade-Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer to the Brigade (dated Jan. 2nd, 1904).

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY.

East Surrey: Surgeon-Captain (Honorary Captain in the Army) E. W. St. V. Ryan, from 16th Middlesex Volunteer Rifle Corps, to be Surgeon-Captain (dated Jan. 2nd, 1904).

NEW ARMY ORDER.

The following Army Order has been issued in India:—

The Commander-in-Chief is pleased to empower principal medical officers of stations to detail regimental medical officers of the Indian Medical Service for any duty in native regimental hospitals in their station, whether of their own or any other corps, as may be necessary. His Excellency is further pleased to direct that regimental medical officers of the Indian Medical Service shall in future be responsible to the principal medical officer of the station and not to the commanding officer of the regiment for the maintenance in proper quantity and quality of all drugs, instruments, and surgical and medical appliances. So long as the present hospital buildings situated in regimental lines continue to be used, the buildings will remain in regimental charge. Where the hospitals have been or may hereafter be brought together in one inclosure or in one building these buildings will be in charge of the principal medical officer of the station. Where such amalgamated hospitals exist the sick of each corps are to be treated in a separate building or separate wards, as the case may be, except in the case of men suffering from infectious or contagious diseases. Whether the hospitals consist of buildings in one inclosure or separate wards in one building commanding officers will continue to exercise the same control as at present and to be responsible for good order and discipline and for all questions connected with interior economy. Regimental subordinate medical and menial establishments will remain as at present.

THE MEDICAL DEPARTMENT OF THE UNITED STATES NAVY.

In the report of the Surgeon-General of the United States Navy, Chief of the Bureau of Medicine and Surgery, for 1903 the recommendation is made that as most of the naval hospitals were built many years ago modern systems of plumbing, heating and ventilating should be

installed and operating rooms and elevators provided in order to bring them up to date. It is also pointed out that the crowded condition of the hospitals renders it desirable that quarters occupied by the medical staff should be devoted to the accommodation of patients. It is stated that in order to meet the urgent need of the service for medical officers and to provide for the future Congress has authorised an increase of 150 officers in the medical corps. At the same time by a wise distribution of the increase among the different grades and a re-arrangement of rank whereby rank for grade was established it placed the Bureau in a position to compete successfully with other Government services in attracting properly qualified physicians to the naval service. An important part of the report is that dealing with tuberculosis. The need of a naval sanatorium for the treatment of tuberculosis, says the report, has been demonstrated with increasing force during the past year. It had been necessary previously to 1902 to rid the service of its chronic consumptives by discharge to civil life, turning them loose to menace their home communities and to drag out their unhappy and short-lived existence as best they might. Last year arrangements were made for the admission of naval tuberculous patients to the Army General Hospital at Fort Bayard, and the Bureau is of opinion that the needs of the navy warrant the establishment of special sanatoriums as adjuncts to some of the most favourably situated naval hospitals. The experience of the past year emphasises the wisdom of the recommendations made by the Bureau for the appointment of skilled dentists at the stations where men and boys are assembled to be trained. In the report on recruiting it is shown that out of a total of 25 000 men examined 13,049 were accepted and 659 men were found to be colour-blind. The whole report shows the great progress which is being made in the medical affairs of the United States Navy.

DEATHS IN THE SERVICES.

Lieutenant-Colonel Edward Russell Cree, R.A.M.C., son of the late Edward Hodges Cree, inspector-general of hospitals and fleets, R.N., on Dec. 29th at Pinewood Sanatorium, Wokingham, in his forty-sixth year. He joined the army as surgeon in 1880, became surgeon-major in 1892, and lieutenant-colonel in 1900. He served in the Soudan Campaign of 1885, and was present in the engagements at Hasheen and the Tofrek Zariba and at the destruction of Temai (medal with two clasps and the Khedive's Star). He also served in the South African War in 1899-1900, and took part in the relief of Ladysmith (mentioned in despatches).

SOLDIERS' MESSING.

With regard to the proposal recently advocated by a military correspondent in the *Times* to introduce a restaurant system of messing into barrack life, we are not informed how that system is to be carried out on field service in war. Without trained military cooks and some practical knowledge of cooking we do not see how the soldier is to be fed and his field ration cooked during a campaign, and, as it seems to us, a practical knowledge of this sort can only be acquired in time of peace.

THE MEDICAL BOARD, INDIA OFFICE.

Colonel A. M. Branfoot, C.I.E., I.M.S., retired, has been appointed President of the Medical Board, India Office, on the retirement, which will soon take place, of Surgeon-General Sir William Roe Hooper, K.C.S.I.

PRESERVATIVES IN FOOD.—It is announced from New York that in the course of the practical experiments instituted by the Department of Agriculture to ascertain the effect of preservatives in food, the supply of food containing the preservative salicylic acid has had to be stopped owing to its injurious effects upon the subjects. One individual, however, is stated to have benefited by taking food preserved with this acid inasmuch as the rheumatism from which he had been suffering disappeared. Food preserved with borax has also had ill effects. It may be remembered that the departmental committee on food preservatives proposed to make the addition of borax compounds in proportion was gram and butter lawful so long as a certain that salicylic acid exceeded, and similarly it was suggested proportion than one grain per pint in liquid food and one grain per pound in solid declared. ed, its presence in all cases to be

Correspondence.

"Audi alteram partem."

THE ADMINISTRATION OF CHLOROFORM TO MAN AND TO THE HIGHER ANIMALS.

To the Editors of THE LANCET.

SIRS,—In his letter in THE LANCET of Dec. 19th, 1903, p. 1757, Dr. W. J. Lindsay raises contentions which may be discussed with great advantage. That the administration of anæsthetics is fraught with danger in the hands of the unskilled few would deny at the present day, even without the recent emphasis laid upon the point by Dr. A. D. Waller. When, however, it is suggested that such danger is to be removed by improved apparatus we get upon debateable ground. The question revolves mainly around the administration of chloroform and to this I propose to confine my few remarks. Now, Dr. Lindsay's contention appears to be that safety must not depend upon the skill and care of the anæsthetist but upon the implement which he employs. The giving of anæsthetics is mere empiricism, he says, in fact, while one man can give them better than another. So long as the anæsthetist is guided by his power to estimate the exact condition of his patient, to vary the quantity of the drug he gives in accordance with the varying behaviour of the patient and the varying needs of the operation in progress, so long, says Dr. Lindsay, the anæsthetist is a mere artist and not a man of science. This position seems to me no more logical than it would be to maintain that surgeons are unscientific because it depends entirely on their skill and care to what depths the knife cuts. It might just as well be said that for surgery to be a science the incising implement must cut to a definite depth and a definite length whenever it is applied to the skin. It might be more scientific perhaps if the knife with which a surgeon opened the abdomen always made a cut, for instance, two inches long and 10 centimetres deep whenever it was applied to the skin. The result, however, in the case of thin persons would surely lead their friends to prefer the skill of a surgeon who was something of an "artist" and not merely the wielder of an accurate implement. As a matter of fact such contentions as this of Dr. Lindsay are not scientific because they are based on false data. If Dr. Lindsay will guarantee that every human being shall from the moment of inspiring an anæsthetic to the close of the operation carry on respiration in exactly the same manner, that his respiration shall be unaffected by his physical condition, by his mental nature, by the nature of the operation, or by the posture which it demands, then truly it will be scientific to come forward with an instrument supplying perfectly regularly an unalterable amount of chloroform. Until this happens we must be able to vary our dosage within wide limits. Nothing but care, skill, and experience can enable us to be perfect in carrying this out. Those of less experience will be less unsafe no doubt if they handle an instrument that cannot supply a vapour of more than a certain strength. Such an instrument they already have in Junker's inhaler. Vernon Harcourt's is more accurate, and no doubt a modified form of Dubois would be an advantage. Yet such instruments as these do permit of variation of dosage within limits, and only experience can insure the proper use of this possible variation. The objection to their use is that in experienced hands they do not provide for as strong a vapour as may be required, in inexperienced they will insure comparative safety but only at the price of an often imperfect anæsthesia. Because the lower or even the higher animals can be very satisfactorily anæsthetised for laboratory work with these accurate instruments it by no means follows, and it is actually not the case, that they are equally satisfactory when applied to the various individuals upon whom surgeons operate. Safety and success with anæsthetics are to be found not in the apparatus but in the hands that employ it. Plenty of deaths have attended the use of Junker's apparatus. Plenty, even if fewer, may be safely predicted for any form of apparatus that is put into inexperienced hands, unless, indeed, a most imperfect form of anæsthesia is to be regarded as sufficient. The safety of the patient and the convenience

of the surgeon will be better consulted if every man who undertakes to give anæsthetics is careful to acquire first a wide experience in their use and believes that if he arms himself with the most accurate and scientific instrument in the market nothing more is needed.

I am, Sirs, yours faithfully,

Cavendish-place, W. J. BLUMFELD.

To the Editors of THE LANCET.

SIRS,—We note that your issue of Dec. 19th contains a letter from Dr. W. J. Lindsay in which reference is made to Mr. Vernon Harcourt's new chloroform inhaler. In connexion therewith we beg to state that we have acquired Mr. Vernon Harcourt's patent and shall be able to offer the apparatus for sale early in the new year. In the meantime we shall be pleased to show one of the inhalers to any of your readers who may call at our showrooms.

We are, Sirs, yours faithfully,

JOHN J. GRIFFIN AND SONS, LTD.

Sardinia-street, W.C.

THE BORDERLANDS OF INFECTIOUS DISEASES AND THEIR MANAGEMENT.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 26th, 1903, pp. 1834-35 Dr. Clement Dukes when referring to the statement contained in the valuable contribution of Dr Biss that "the constant breaking out of scarlet fever in the diphtheria wards and of diphtheria in the scarlet fever wards may be traced to some individual the equivocal nature of whose ailment had caused its real bearing to be overlooked" exclaims, "What an indictment against the management, or construction, of these hospitals." I submit that it is merely the indictment of a system and not of either construction or administration. Dr. Dukes does not believe in the existence of these anomalous cases and asks for instances. Let me direct his attention to the report of Dr. L. W. Darra Mair dealing with an outbreak of "sore-throat illness" which occurred at Lincoln in May, 1902. To begin with there was a division of opinion as to whether the disease was or was not scarlet fever, the prevailing belief being that it was not. The epidemic claimed nearly 200 victims, of whom four died. Clinically a large number of the cases were scarlet fever, bacteriologically none were. The disease was not contagious. Dr. E. Mansel Sympson thus classifies the cases which came under his observation: (1) cases which were clinically indistinguishable from cases of scarlet fever; (2) intermediates which presented sore-throat, fever, and some rash; and (3) cases without rash.

In the first group there was peeling which took from four to five weeks to complete. In the second the rash was urticarial in character. In the third, in addition to fever there were sore-throat and swelling of the external glands. The complications were gastritis and rheumatism, the latter sometimes resembling rheumatic fever. The streptococcus scarlatinæ was not discovered in the throat swabbings although other forms of streptococcus were found, but these failed to produce any effect on animals. In three cases a fungus of the order saccharomycetes was found and to this ferment the Lincoln outbreak is believed to be referable.

In the same month of the following year another outbreak occurred and again the medical men were divided, the preponderance of opinion being this time on the side of scarlet fever. On this occasion Dr. Klein failed to discover either the streptococcus scarlatinæ or the enzyme, but numerous other streptococci were found, as were "diphtheroid" bacilli, which, however, were not pathogenic to animals. Fortunately, very few indeed of these cases were "isolated" or Lincoln would have had an epidemic about the nature of which there would have been no question whatever. How are we to prevent the entry of anomalous cases into the wards of the "isolation" hospital? Can we rely on bacteriological diagnosis? In the case of diphtheria I submit that the bacteriological test cannot be regarded as entirely trustworthy. We are confronted by many difficulties. It has yet to be decided whether or not those organisms which are classed as "pseudo-diphtheritic" are merely the attenuated forms of Klebs-Löffler bacilli which need but favourable conditions to acquire virulence. Evidence, moreover, is accumulating that the Hofmann bacillus, although distinguishable from the Klebs-Löffler organism morphologically, culturally, and biologically, may become virulent by growth under favourable conditions. Again, the absence of any organism which might have etiological relationship to diphtheria cannot be taken as disproving a diagnosis of diphtheria[1] and the presence of diphtheritic bacilli in scarlet fever cannot be regarded as conclusive.

In the latter disease the point is still debateable whether or not the streptococcus of Klein is more than an associate. Difficulties (not errors) of diagnosis form only one of the objections to the aggregation of cases of infective diseases in large permanent hospitals, and I hazard the opinion that we are within measurable distance of the time when this system will be universally regarded as a blunder.

Dr. Dukes speaks of the "isolation" hospital as a "valuable institution." Now value is a demonstrable thing and the making of such a statement at the present time entails the obligation of furnishing the data on which he bases his conclusion. Those who have gone further afield than Dr. Dukes appears to have done in search of such evidence have generally been driven to an opposite conclusion. It is an opportunity not to be missed, for, strange as it may appear, the *raison d'être* of the isolation hospital—very improperly so-called—has never yet been given to the world.

I am, Sirs, yours faithfully,

Nottingham, Jan. 2nd, 1904. EDWARD DEAN MARRIOTT.

To the Editors of THE LANCET.

SIRS,—The duty of carrying out an inquiry into the value of "isolation" hospitals rests upon the Local Government Board, for that body is chiefly responsible for the great expenditure upon the provision of these institutions which is still taking place. And such an investigation is urgently required. For, while it is hard to believe that the removal of an infectious person from a crowded tenement is useless or even unnecessary, all the evidence which has been accumulating since the appearance of Dr. Wilson's paper six years ago goes to show that the segregation of scarlet fever cases has been productive of no appreciable diminution in the prevalence or fatality of the disease. Is it not possible that an explanation of the paradox may be found in the hypothesis that scarlet fever, like diphtheria, may exist in a latent form and that it is by unrecognisable cases, mainly, that the infection is disseminated? Then, again, the good which it seems hospitals must do in some cases may be counterbalanced by the production of "return cases," which are probably more numerous than is supposed. For an infectious child on his return from hospital is more likely to spread infection among his school-fellows than at his home.

The experience of even one small town which has no fever hospital may be at least suggestive. In Windsor during the last ten years only two deaths from scarlet fever have occurred, that number giving a mortality-rate of 0·08 per 1000 of the child population (under ten years) and a *fatality*-rate of less than 1 per cent. of cases notified, and in only 11 per cent. of the houses affected did any further case occur after the first was notified (allowing two days for incubation). Surely, if such experience as this is general the provision of costly fever hospitals for country districts is a monstrous waste of money which is so much wanted for other and more fruitful uses.

I am, Sirs, yours faithfully,

EDW. CASEY,

Jan. 6th, 1903. Medical Officer of Health, Windsor.

ADMINISTRATION OF ANTIDIPHTHERITIC SERUM BY THE MOUTH.

To the Editors of THE LANCET.

SIRS,—A most interesting article on Diphtheria by Dr. F. Foord Caiger in THE LANCET of Dec. 26th, 1903, p. 1771, induces me to mention a method of administering antitoxin which I have employed in several cases lately. This consists

[1] It is a curious fact that the lowering of the fatality rate of diphtheria since the introduction of the serum treatment has not been accompanied by a proportionate reduction in the mortality from this disease.

in giving it by the mouth. The idea occurred to me two years ago when I had a bad case of diphtheria miles off in the country. It was impossible to keep a close watch on the case and to inject the antitoxin when necessary, so I told the nurse to give it by the mouth if the temperature rose to a certain height or if symptoms seemed otherwise to indicate its use. Altogether 7000 units were given by the mouth and the patient, a youth aged 21 years, recovered without any after-effects. I have twice since given the serum in this manner and in both cases recovery has taken place. There is, fortunately, not much diphtheria in this district, so that cases are few and far between, but it struck me that, especially in children, the administration by the mouth would be much more agreeable and certainly less painful than by injection. Also, if one's case is far off it much simplifies matters and, so far as my small experience goes, may make all the difference to the result of the case.

Taken in water the serum is practically tasteless and gives merely the sensation of something oily going down the throat.

I am, Sirs, yours faithfully,

Beverley. W. HERBERT GREGORY, M.D. Edin.

THE PHOSPHATES AND UREA OF URINE.

To the Editors of THE LANCET.

SIRS,—Mr. E. G. Clayton is too diffident, he forgets how much bio-chemists have done—although more perhaps in France than in England—for medical science. Was it not Pasteur who said that osteomyelitis was simply a boil in bony tissue, and was not Pasteur right in spite of the wise men of the Académie de Médecine who declared that only a chemist could make so foolish a statement! Bouchard, calling chemistry to his aid and especially the work of Duclaux, gave precision and extension to Beneke's idea of certain diseased processes being due to retarded nutrition, and it is mainly Bouchard's chemical assistants who, free from some of the preconceived ideas of the medical man, have endowed general pathology with some of the attributes of an exact science.

If Mr. Clayton follows the evolution of Beneke's idea he will find an answer to most of the questions he asks me in his letter in THE LANCET of Dec. 12th, 1903 p. 1683. This idea, I have just said, received marked development from Bouchard; the views of the author are contained in his masterly work entitled "Maladies par Ralentissement de la Nutrition." Robin, in his first thesis, making an exhaustive study of the urine in typhoid fever, introduced the method of calculating the intensity of nutrition by means of the urinary co-efficient of oxidation.[1] A large number of analyses made by Gautrelet, Huguet, Richard, Vieillard and others, either independently or under the direction of Bouchard and Robin, led to the definite conclusion that this co-efficient was invariably low (actually or virtually) in the diseases designated by Bouchard as due to slow metabolism and that a fairly constant figure (84 per cent.) could be established for normal nutrition. But how were those cases to be interpreted, and they were present in a certain proportion, when the co-efficient of oxidation was persistently high? Obviously by invoking the factor of accelerated nutrition. Such cases included the subjects of the pretuberculous diathesis, those in possession of the same disease, and those showing a marked liability to infection in general.

Here then we had a large number of pathological processes explained by an extremely simple bio-mechanical theory. About the same time, however, Lecarché published his well-known work on gout and attributed this disease to hyper-nutrition, itself the consequence of the hypo-alkalinity of the tissues, and later Robin detached diabetes from the category of diseases due to slow nutrition to place it in the opposite class. Could these conflicting views be conciliated? Here again the bio-chemist suggested a solution by investigating, as Gautier does in his "Chimie de la Cellule Vivante," the aerobic and anaerobic characters of cellular nutritional processes.

The latest practical outcome of Beneke's conception is the application by Robin and Binet to the products of pulmonary respiration of the theory involved in the co-efficient of oxidation. I referred in the paper discussed by Mr. Clayton[2] to some of the highly interesting results arrived at by those writers. Since then I have used their apparatus in investigating the vicarious functions of the lung in cases of hepatic insufficiency, as in the case of alcoholics. I have found the expiratory carbonic dioxide increased in such conditions. May not this overwork of the lung, it may be asked, be a factor in inducing the tuberculous infection which is so frequent a termination of alcoholism?

I am, Sirs, yours faithfully,

Nice. A. W. GILCHRIST, M.D. Paris.

[1] The ratio between the total nitrogen and the nitrogen of urea; this ratio is also called "rapport urologique."

[2] THE LANCET, Nov. 29th, 1902, p. 1496.

THE TREATMENT OF CERTAIN FORMS OF OBSTINATE CONSTIPATION BY ENTERO-COLOSTOMY.

To the Editors of THE LANCET.

SIRS,—I have been interested in your annotation on Mr. W. Arbuthnot Lane's case and in Mr. C. B. Keetley's letter because I dealt with a somewhat similar case in September, 1902. The patient was a widow, aged 38 years, who gave a history of an attack of "peritonitis" in childhood. She suffered severely from constipation, without any of the ordinary features of acute or chronic obstruction. Even with the use of aperients and enemata the bowels seldom acted more than once in from six to eight days, and towards the end of the period of constipation she was tormented with headaches severe enough to incapacitate her and which were only relieved when she had passed a motion composed of small hard masses of fæces, each piece of about the size of a small marble. In spite of treatment with drugs, diet, massage, electricity, exercises, &c., the constipation became more obstinate and the headache more persistent. Judging that the constipation was produced by adhesions and that the headaches were stercoral I decided to open the abdomen and to make an anastomosis between any convenient parts of the small and large intestine. The adhesions were apparently due to a former attack of appendicitis, for they were more dense in the right iliac fossa and involved the cæcum and many coils of the lower ileum. With some difficulty I was able to effect an anastomosis between the ileum above the adhesions and the lower part of the sigmoid flexure. The patient made a good recovery and both her constipation and her headaches have been cured.

Mr. Keetley's *a priori* consideration that inconvenience might be caused by the fluid contents of the small intestine entering the rectum has not been borne out in this case, for the motions passed are solid and well formed. In this case it would, as Mr. Keetley suggests, have been better to do an end-to-side rather than a lateral anastomosis, for my patient from time to time suffers pain and distension in the regions of the transverse and descending colon, and at such times fæcal masses can be felt there through the abdominal wall. It may become necessary to close the ileum below the anastomotic opening. I can see no reason why such an operation should not be performed for cases of constipation such as Mr. Keetley describes, and I quite agree with the advisability of making the anastomosis outside the abdomen if possible. My excuse for taking up your valuable space is the experience afforded by an actual case on two points raised by Mr. Keetley.—I am, Sirs, yours faithfully,

Salisbury, Dec. 28th, 1903. GILBERT KEMPE.

To the Editors of THE LANCET.

SIRS,—If Mr. C. Mansell Moullin will do me the honour of glancing through the short paper published under the title of "An Effectual Means of Dealing with the Conditions of Chronic Obstruction of the Large Bowel resulting from the Adhesions which Develop in Consequence of Chronic Constipation" in THE LANCET of Jan 2nd, p. 19 (which also contains his letter), he will see that the apparently rare and somewhat obscure case of atony of the large bowel on which he operated so successfully is neither similar in its causation nor in its pathology to the comparatively common and simple definite condition of mechanical obstruction described by me. I am, Sirs, yours faithfully,

Cavendish-square, W., Jan. 2nd, 1904. W. ARBUTHNOT LANE.

A PATHOLOGICAL CURIOSITY.

To the Editors of THE LANCET.

SIRS,—May I bring to the notice of the many readers of THE LANCET an interesting fact which was disclosed at a necropsy at the French Hospital a short time ago. On examining the kidneys it was found that the subject possessed three, two on the left side and one on the right. The two on the left side were fused together, one being on top of

the other, and externally showed two ureters springing separately from two distinct pelves and continuing separately along their whole length, opening into the bladder by two distinct openings, one being about a quarter of an inch above the other. On section there was a distinct demarcation of the two kidneys, which was not visible from the exterior. All three kidneys were normal in appearance and had no connexion with the cause of death. I should be glad to know whether this has often been found.

I am, Sirs, yours faithfully,

JEHAN M. BARLET,
Resident Medical Officer to the Hôpital et Dispensaire Français, Shaftesbury-avenue, London, W.C.

Jan. 3rd, 1904.

*** A supernumerary kidney is very rarely met with. It is regarded as an extreme instance of segmentation of the kidney of one side. In its most typical form it lies in serial order with the kidney of its own side but is entirely separated. It is provided then with its own vessels and its own duct. The duct may fuse with that of the other kidney or remain separate as in the case quoted by our correspondent. Kidneys with two pelves are possibly less marked instances of the same abnormality. Even in these the ureters usually fuse so that it is rare to find two ureters entering the urinary bladder on the same side. Our correspondent will find references to the condition in Rayer's work (Traité des Maladies des Reins, 1840) and also in Newman's paper on Malformations of the Kidney (Transactions of the Clinical Society, vol. xxxi.).—ED. L.

THE LUNG REFLEX OF ABRAMS.

To the Editors of THE LANCET.

SIRS,—In affirming that I have in any way denied that the inspiratory muscles are the chief agents in maintaining and augmenting pulmonary suction Dr. Harry Campbell is making an entirely gratuitous assumption. How could anyone doubt the normal function of these muscles, albeit Dr. Campbell makes it appear as though he had expressly discovered it. What I have maintained all along is that elastic recoil of the thoracic wall is an important factor and that the inspiratory muscles in normal breathing contribute to pulmonary suction in a different manner relatively to the lungs than they do when pulmonary tension is abolished, as in excessive emphysema or in the initial stretching of the child's lung. In the latter case Dr. Campbell is, to say the least, unguarded in labeling my statement as "untrue," as what I referred to was the stretching of the lung by the inflation of the collapsed alveoli which occurs before the actual stretching of the elastic fibres. I also oppose Dr. Campbell's oft-repeated and novel plea that the inspiratory mucles are "ever busy" and "moment by moment" keeping up the pulmonary tension, for the very obvious reason that these muscles are not acting during expiration, and as expiration lasts longer than inspiration the inspiratory muscles instead of being "ever busy moment by moment" are in fact idle the greater part of the time.

It is instructive to note Dr. Campbell's attitude in regard to passive recoil and the extension of the pleural margins of the lungs. In the former case he carefully evades reference to the particular words to which I have several times taken exception, and in the latter case he adopts what, without any discourtesy, may be termed the subterfuge that the "confines" of the pleuræ may be interpreted in his previous letter, not as representing their normal boundaries (as was undoubtedly implied therein) but as including any space into which the pleuræ can be stretched. In directing attention to the fact that in addition to the complemental pleural spaces there existed what I may term an extra reserve space, it was merely to show that there was no physical impossibility, as supposed by Dr. Campbell, in the lungs being stretched beyond the pleural boundaries. But as regards a displacement of the lower borders of the lung in excess of that produced by a deep inspiration, it is by no means necessary to suppose that this extra reserve space is utilised when the lung reflex is induced, because the fact is that by ordinary deep inspirations the complemental spaces cannot be filled by the lungs. It is possible, however, to fill one pleural space if the patient lies on the opposite side and makes the strongest inspirations he can. It may here be added that in the distension which follows on the induction of the lung reflex phenomenon after passive recoil of the chest has done its part the diaphragm (specially) and the other inspiratory muscles contract in obedience to the requirements of the pulmonary relaxation. I think it will be seen from the foregoing considerations that the "impossible position" of Dr. Campbell is once more disposed of.

Hitherto not a few of Dr. Campbell's criticisms have been ingenious and serviceable in the elucidation of the lung reflex phenomena, but certainly his comments on the reflex of contraction are peculiarly unfortunate. He believes that sudden bronchial contractions in a limited area of lung will have the effect of distending the pertaining alveoli and actually cites as analogous the case of the asthmatic paroxysm. If Dr. Campbell will take the trouble of observing the most ordinary laboratory experiment on vagal stimulation inducing bronchiolar contraction he will see that the result is an almost immediate diminution in lung volume. It is only when the bronchiolar contraction is persistent that the air gradually gets imprisoned and inflates the alveoli to distension. In this connexion it is interesting to note that recently Aufrecht[1] announced that by means of the Biondi-Heidenhain stain he has succeeded in demonstrating a longitudinal layer of muscular fibres in the bronchial tubes, to the vermicular contraction of which the expulsion of air and secretion is largely due. I should consider it likely that in the circumscribed lung contraction which succeeds to focal concussion of the thorax such function of the longitudinal fibres is not rendered altogether invalid, whereas in the asthmatic paroxysm the retention and accumulation of air are more fully explained by the persistent local contractions of the circular fibres throwing the longitudinal fibres out of action. In regard to the new consideration introduced by Dr. Campbell at the end of his letter, I have not as yet heard of its being mooted either by Dr. Abrams or his "disciples" that the margins of reflexly expanded portions of lung move more extensively than normal. Reasoning from what takes place in emphysematous conditions generally I should have imagined the very opposite to be the case.

I am, Sirs, yours faithfully,

Henrietta-street, W., Jan. 4th, 1904. A. G. AULD.

LONDON HOSPITALS AND CENTRAL CONTROL.

To the Editors of THE LANCET.

SIRS,—The question of the possibility of submitting the London hospitals to some form of central control, organised for the purpose of restraining expenditure and of economising force, has from time to time floated casually into the field of view of all those who are actively engaged in procuring funds for their support, and has again been brought into prominence by a letter from a manifestly well-informed correspondent of the *Times*, which appeared in that journal on Dec. 26th and which takes a somewhat alarmist view of the future of hospital finance. The writer of the letter believes that unless the now constantly increasing demands of hospitals can be systematised and checked by some central board or other body constructed for the purpose, and possessing the confidence of the public, the patience of donors will be exhausted, and that the institutions themselves must either cease to discharge their functions or must become dependent upon the rates and subject to municipal administration. In the discussion of this subject members of the medical profession have hitherto taken only a small part, but it is so intimately connected both with professional education and with general professional welfare that it seems to be quite worthy of all the attention which can be bestowed upon it. It is easy to understand that physicians and surgeons intent upon their own work, and sufficiently burdened by their own responsibilities, may hesitate to approach those which seem to belong more properly to treasurers and committees, but the connexion between the two is so close as to be practically inseparable, and the financial errors of a committee can never be without influence upon the government of the wards or upon the treatment of the sick. On this ground, and by reason of the enormous importance of the hospital system to the community, it seems eminently desirable that the profession should contribute its special knowledge towards the solution of problems which, at the present time, appear to weigh chiefly upon the shoulders of non-medical philanthropists,

[1] Deutsche Archiv für Klinische Medicin, Band lxvii., H. 5 and 6.

and to be on the verge of reducing many members of that useful and estimable class to the borders of despair.

When viewed with reference to the only two questions of paramount importance, the advancement of medical science and the treatment of the sick poor, it is impossible to deny that the London hospital system, regarded as a whole, affords an extraordinary example of misdirected and overlapping energy and of obsolete arrangements. The localisation of the great general hospitals bears no discoverable relation to that of the patients for whose benefit they are supposed to exist and to be maintained, while the smaller ones are scattered as aimlessly as if their seeds had been sown by birds or by the wind. A large proportion of the numerous special hospitals have arisen at the bidding of practitioners desirous to obtain some advantage from them, and were originally planted wherever a house not too far from the residence of the founder could be obtained, or wherever a local philanthropist could be induced to identify himself with the rising institution and to take its fortunes under his wing. There is probably not one London practitioner in a hundred who could say offhand how many hospitals for any particular specialty are in existence within a mile of his residence, or by what physicians and surgeons they are officered, and there are unquestionably many of such hospitals which are not regarded as sources of any especial light and leading with reference to the departments of practice which they profess to make their own. The most that can be said in favour of them, in a general way, is that they furnish the members of their staffs with opportunities of operative and other practice which may eventually be turned to the advantage of patients outside their walls, and that for various reasons they obtain support from donors who might not be reached by the appeals of more important charities, and who, if they did not give to these, might possibly not give at all. To their discredit must be placed the enormous evil of an unnecessary overlapping of appeals and of an unnecessary multiplication of establishments and of paid officials, all requiring the diversion to other purposes of money which ought to be devoted to the treatment of the sick, and this to such an extent that in all probability a central board free to reorganise at its pleasure, to suppress, to establish, to remove, and to amalgamate, would be able to carry on a complete hospital system for London at far less expense than is now required for an incomplete one. Is it quite beyond hope that some such board may ultimately be obtained?

I am, Sirs, yours faithfully,

HOSPITAL SURGEON.

THE NEW REGULATIONS FOR THE INDIAN MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—May I trouble you with a few lines relative to the letter of "Veteran" in your issue of Nov. 14th last, p. 1396? His penultimate paragraph may if not corrected raise false hopes in the breasts of intending candidates for the civil branch of the Indian Medical Service. It is true that before the introduction of the new rates of pay the pay of a second-class civil surgeoncy was Rs. 50 per mensem less than that of an officer in permanent charge of a regiment, yet this is not now the case, as I know from experience. The pay remains the same as before and is consequently now Rs. 100 a month less than that for permanent charge of a native regiment, so that his remarks regarding the chance of private practice should be carefully noted by all intending candidates. It is very rare for any civil surgeon of a second-class station to make anything approaching this sum (Rs. 100) in private practice; 30 to 50 rupees a month would give a fair average of the takings from private practice.

Comparing the pay of the Royal Army Medical Corps and the pay of the Indian Medical Service (new rates) the advantage is all in favour of the Royal Army Medical Corps, their pay being brought up by "charge allowance" to above that of the pay of corresponding ranks of the Indian Medical Service, and there is no increase of pay to compensate the Indian Medical Service for continual service in India and many other disadvantages. I could give many instances showing the inadequacy of the new memorandum but will not trespass on your space to do so; my object is to point out that the civil surgeon does not yet benefit by the revised rates, rather is his position relatively worse. We must, however, be thankful that a move has been made in a right direction, a move which inspires us to hope that the civil branch (the bait that attracts, or attracted, men to the Indian Medical Service) will shortly receive the much needed improvements.

I am, Sirs, yours faithfully,

S. I. M.

SPIRAL FORMATIONS IN RELATION TO WALKING, SWIMMING, AND FLYING.—A letter from Mr. Theodore A. Cook, whose name was freely introduced into Professor Bell Pettigrew's paper on this subject, was received too late for publication. It will appear in our next issue.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Sleeping Sickness in Liverpool.

TWO cases of presumed sleeping sickness in the first stage sent by the authorities of the Congo Free State arrived at Liverpool on Dec. 28th, 1903. These cases have been sent to the Liverpool School of Tropical Medicine in order that a study of the disease may be made in England as well as in Africa. The change from tropical Africa to these northern latitudes has had a tonic effect on both natives; one of them who was in a weak condition when he left the Congo now shows much more vigour. The other patient has never shown any serious symptoms, and it is only the presence of the trypanosome in the blood which indicates that he has been attacked by the disease. Both are now under observation by Professor Ronald Ross, the director of the Liverpool School of Tropical Medicine.

Infectious Diseases in Liverpool: Question of Hospital Accommodation.

The medical officer of health (Dr. E. W. Hope) reported to the health committee of the city council on Dec. 31st last that there were one case of small-pox and 334 cases of scarlet fever under treatment in the corporation hospitals. In reply to Alderman W. Roberts who asked if there happened to be an increase of scarlet fever patients whether there would be hospital accommodation, Dr. Hope replied that the city was exceptionally free at present from all forms of infectious disease; indeed, it had not been so free within the past ten years. At present 474 patients were in hospital, but inasmuch as there were 900 beds, only about one-half of the hospital accommodation was in use, so that the state of things was very satisfactory.

Prevention of Malarial Fever.

At the monthly meeting of the Liverpool Chamber of Commerce held on Dec. 29th last a letter was read from the Glasgow corporation stating that as a result of the visit to that city of Professor Ross of the Liverpool School of Tropical Medicine it and other bodies in Glasgow had decided to join with the authorities of other towns to bring pressure to bear on the Government to take steps to investigate the ravages of malaria. Professor Ross said that all were agreed that the Government should move more quickly. Manchester, Newcastle, and Sheffield were also prepared to join and the Liverpool School of Tropical Medicine proposed to draw up a plan of action to be taken after the return of Sir William MacGregor from Lagos.

Scholarship in Dermatological Research at the University of Liverpool.—Proposed New Lectureships.

Dr. George G. Stopford Taylor has offered to the medical faculty of the University of Liverpool a scholarship of the value of £100 a year for five years for the purpose of original research in the study of dermatology. The scholar who will be appointed will act as clinical assistant in the out-patient department of the Liverpool Skin Hospital and will also devote a portion of his time to research work at the Thompson-Yates laboratories. The offer awaits the sanction of the council of the University. The medical faculty has also recommended to the council the institution of two new clinical lectureships, one in dermatology and the other in laryngology.

Jan. 5th.

THE DEATH OF PROFESSOR KARL VON ZITTEL.—The death is announced as having occurred at Munich on Tuesday last of Professor Karl von Zittel, the famous palæontologist and author of a "Manual of Palæontology."

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Small pox Hospital.

THE hospital in which small-pox patients are at present isolated in Cardiff consists of corrugated iron structures which were erected many years ago upon land adjoining the permanent buildings provided for other infectious diseases. The site is on the outskirts of the town and is bounded on two sides by railways, so that it cannot be built up to very closely. The small-pox buildings have over and over again been of service to the town in checking an outbreak of the disease through the isolation of the initial case, but the corporation desires to replace the existing wards by more permanent buildings. The Local Government Board, however, refuses to sanction a loan for the erection of a small-pox hospital in proximity to the general isolation hospital. There does not appear to have been at any time a transfer of infection from one institution to the other. In this connexion it is of interest to note that there is a well-equipped hospital on one of the islands in the Bristol Channel for the purpose of isolating cases of plague or cholera. This hospital, which has a crematorium attached to it, is for the use of the Cardiff, Newport, and Barry port sanitary authorities.

Housing in the Rhondda Valleys.

In 1902 the Rhondda urban district council promoted a Bill before Parliament, one of the objects of which was to provide a system of electric tramways within its district. A strong argument in favour of the measure, and one which evidently had some weight with the Parliamentary committees before which the preamble of the Bill was proved, was the relief which the proposed tramways would give to overcrowded areas. It was stated in evidence that in certain districts surrounding collieries which were in full work there was a dearth of houses, so that two, and even three, families often occupied one house, whereas in other parts only a few miles distant empty houses were frequently found and that, as the overcrowded and less crowded areas were not constant but varied in accordance with the activity of the particular colliery concerned, a complete system of tramways would enable the colliers to reach their work, even though they lived at some distance from it. The district council has not yet provided the tramways which it considered were so urgently needed in 1902, but the Taff Vale Railway Company has instituted a service of motor-cars which may do a great deal to lessen the overcrowding complained of. The cars will run upon the existing lines of railway which traverse both the Rhondda valleys but will stop to pick up and to set down passengers at many fixed points between the regular stations. Each car is self-contained, resting on four pairs of bogey wheels, and is worked by a small steam motor in the front. There is accommodation for 16 first-class and 40 third-class passengers, each compartment opening on to a central platform, from which steps can be let down when the car stops elsewhere than at a station. The gradients in some parts of the line are heavy but they are easily taken by the cars and full speed can be attained very quickly.

Remuneration of Colliery Surgeons.

An unsuccessful attempt has been made to alter the arrangements existing between the colliery surgeon and the managers of the Powell Dyffryn collieries and ironworks at New Tredegar (Mon.). For many years past a poundage has been deducted from the workmen's wages and handed to the surgeon but a few men desired to have the deductions handed to a committee of themselves and to pay a fixed salary to a surgeon or surgeons and to defray the cost of the practice. A representative meeting of the men was held on Dec. 14th, 1903, when the whole question was discussed and eventually 67 voted for the continuance of the present system and only 29 in favour of the proposed change.

Cleanliness of Milk-supplies.

A slight outbreak of milk-borne scarlet fever in Bristol was reported upon by the medical officer of health (Dr. D. S. Davies) on Dec. 15th, 1903, and in the course of his report Dr. Davies said that the outbreak helped to emphasise the repeated warnings he had issued against the atrociously dirty habit of drinking, or of allowing children to drink, uncooked milk. The question of a cleanly milk-supply was also discussed at a meeting of the West of England and South Wales Branch of the Incorporated Society of Medical Officers of Health, held at Exeter on Dec. 17th, when Dr. W. H. Symons of Bath suggested that evidence of fæcal matter and other deleterious substances in milk should be considered as adulteration and should be punishable by fine or imprisonment.

Hospital Sunday Fund at Plymouth.

Oct. 25th was observed in Plymouth as Hospital Sunday when the collections at the various places of worship amounted to £808, which sum has now been handed to the committee of the South Devon and East Cornwall Hospital, Plymouth. The Sunday schools collection in aid of the children's ward of this hospital during 1903 amounted to over £62.

Jan. 5th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

The Vacation and Measles in Glasgow.

THE Christmas and New Year vacation of the universities and the extramural schools of medicine in Glasgow is now passed, the classes having resumed work on Jan. 5th. The public schools in the city, however, on the recommendation of the medical officer of health of the city of Glasgow (Dr. A. K. Chalmers), have received a more extended holiday than usual—a period of 18 days—in the hope that this will have some influence in staying the progress of an epidemic of measles which has been affecting school children for some time.

Small pox in Glasgow.

This disease is still on the increase. On Jan. 1st nine cases were admitted to Belvidere Hospital, making 184 cases under treatment on that day. The total number of cases discovered since the beginning of the epidemic is 306, of which 24 have died. The public, however, does not appear to be much disturbed and its apathy has increased the difficulties of the sanitary authorities in obtaining more general revaccination. Experience shows that this only becomes possible in a community like Glasgow when the epidemic assumes alarming proportions and a certain degree of scare is produced urging people to a course of action which has been long pressed on them and at a period when more successful results would have followed. The efforts, nevertheless, of the local authorities in this and other directions in staying the progress of the disease are untiring.

The Western Infirmary, Glasgow.

A feature of this season of the year has been the annual gatherings in the different charitable institutions of the city. Those which have naturally attracted most attention were in connexion with the three principal infirmaries—the Western Infirmary, the Royal Infirmary, and the Victoria Infirmary. At the Western Infirmary on Dec. 29th, 1903, the managers and friends of the institution met the staff in the large conservatory where the formal part of the proceedings took place. Here the chairman of the committee of management (Mr. J. H. Dickson) in a short address referred to the encouraging support which the public was giving to them in their efforts to extend the infirmary. The new dispensary, which will be one of the finest in the kingdom, is fast approaching completion and the managers trust that the subscriptions which at present are being obtained will enable them to extend the hospital by the erection of a new wing. This is, indeed, urgently required. The hospital is constantly overcrowded and at present there are over 300 cases awaiting admission. One reason for the demand for more accommodation is the increase of industries in the neighbourhood and the consequent larger number of accident cases which require immediate admission. There is need for three times the accommodation for these cases that was required a few years ago.

The Royal Infirmary, Glasgow.

The gathering at this institution took place on New Year's Day and the Lord Provost (Sir John Ure Primrose) presided. Much interest was taken in the statement of the chairman of the house committee (Mr. J. D. Hedderwick) to the effect that the managers were beginning to see their way clear for making a start in the rebuilding of the old institution. No pains have been spared to make the scheme perfect. Plans have been adopted by the executive committee of subscribers and by the managers which have been amended to some

extent at the instigation of the staff. One condition agreed upon has been that the outside walls of the present building shall remain, but it is believed that the reconstruction can be accomplished perfectly even under this condition.

The Victoria Infirmary, Glasgow.

A similar gathering took place at the Victoria Infirmary, at which the treasurer made the pleasing announcement that a New Year's gift had come in the form of a cheque for £1250 from Mr. William Buchanan, of Glasgow, for the endowment of a bed in one of the wards.

Jan. 4th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Queen's College, Belfast.

THE council and corporate body of the Queen's College, Belfast, have passed a series of resolutions calling upon the Government to grant to the College an amount of financial assistance in accordance with its requirements. It is pointed out that the existing arrangements are absolutely inadequate and the fact that the public have subscribed generously to an equipment fund constitutes a still further argument for Government aid. The only reason for the continual postponement of any measure providing for the requisite equipment of the College must be the difficulty of finding a practicable scheme for settling the general university question, but to insist that this difficulty should be permitted to stand in the way of the development of higher education in Belfast would be unjust to those who have acted in response to the Treasury's request for evidence of local support. Moreover, postponement for such a reason would introduce conditions which have not in any way been created by the College and over which it has no control.

Health of Belfast.

At a meeting of the corporation of the city of Belfast held on Jan. 1st an important discussion took place in reference to the treatment of consumption. The medical officer of health, Dr. H. Whitaker, recommended (1) that suitable open-air spaces should be provided in the city for those suffering from this disease; (2) that a properly equipped sanatorium for 100 patients should be provided; and (3) that phthisis should be made a notifiable disease. The adoption of these suggestions was proposed and seconded by the chairman and vice-chairman of the public health committee, but an amendment to pass the minutes of the public health committee and to refer further discussion to the council in committee for consideration and report was carried; in other words, to shelve the whole question again. It is indeed deplorable to have to state it, but it is nevertheless the fact, that in questions affecting public health there is in the corporation of Belfast really no healthy opinion. They "care nothing for such things." Attention may be drawn to the fact that the improvement committee has actually recommended that a plan should be approved for several houses with no back passages on the extraordinary ground that "the committee find it impracticable to procure a back passage to the houses." Strong objections were taken to the retrograde proposals, some of the councillors protesting against the committee attempting to overrule the objection of the surveyor, and ultimately this matter was also referred for consideration.

Retirement of the Chairman of the Public Health Committee of Belfast.

Alderman J. Graham, M.D. R.U.I., chairman of the public health committee of Belfast, is about to retire from this office. He moved for the last time on Jan. 1st the minutes of the committee of which for a lengthened time he has been chairman. He referred with satisfaction to the comparatively good state of the health of Belfast, the death-rate for the year being only 19·8—the lowest on record. It will be gathered from the previous paragraph that Dr. Graham's successor will not find his task a grateful one, for he will have to deal, with no real support from the rest of the corporation, with such questions as the milk-supply, the consumption problem, the infectious diseases hospital, and the drainage of the city. Your readers know how much despite a comparatively low death-rate, remains to be done for the public health of Belfast.

Rainfall in Belfast in 1903.

At Queen's College, Belfast, 42·33 inches of rain fell as compared with the average of 33·55 inches for 38 years. At Springfield, near Belfast, it was 47·23 inches, or 6·35 above the average for 27 years (40·88), and at the Linen hall Library, in the centre of the city, it was 40·78, five inches more than the total of 1902. The rain-gauge at the College is 68 feet, at the Linen hall Library 17 feet, and at Springfield 150 feet above sea-level. The fall was greater in 1872, when it was 44·51 inches, but for sheer persistent rainfall the year 1903 makes a record in Belfast, as rain fell actually on 269 days, the only years approaching it being 1877 and 1900, with 216 and 212 days respectively. Not a single day in October was without rain, 6·82 inches at Queen's College and 7·30 at Springfield falling, in both cases being practically double the average. In Ulster, outside Belfast, the rainfall has also been remarkably high; and at Seaforde, co. Down, the register was 48·69 inches for the year, against 42·68 for 1902, or the heaviest for many years past. Rain fell on 244 days, as against 201 in 1902; while in October the gauge registered 7·43 inches. Last year exceeded the average at this place for the past 18 years by over ten inches.

Jan. 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Lumbar Puncture in Diseases of the Ear.

AT the meeting of the Academy of Medicine held on Dec. 29th, 1903, M. Babinski announced that he had treated a certain number of disorders of hearing by puncture of the spinal canal. It is found that there is a relation between the pressure of the cerebro-spinal fluid and the pressure of the fluid contained in the labyrinth of the ear. Instances of vertigo have been remarkably benefited (21 recoveries in 32 cases). Tinnitus was somewhat less obviously influenced (30 recoveries or instances of improvement in 90 cases). Deafness was generally resistant, especially when unaccompanied by tinnitus or vertigo. In this class of cases there were only 13 which were improved in a total of 100, but some of the successes which were obtained were remarkable. For instance, after lumbar puncture a lady who had been deaf for ten years was able to hear whispering at a distance of six feet. The treatment seemed to be free from inconveniences beyond some temporary malaise.

The Lazaret at Frioul.

At the same meeting of the Academy M. Josias read the conclusions of the report which he had communicated to the Academy at its meeting held on Dec. 8th, 1903, relative to the steps required to be taken with respect to the lazaret at Frioul. The lazaret ought to be fitted up with more regard for health and comfort; it ought to include an infirmary with separate rooms for ordinary patients and a hospital for patients suffering from virulent epidemic diseases, such as plague, cholera, yellow fever, and the like; and it ought to be provided with every available means for the prevention and treatment of such ailments. The measures for the disinfection of a ship before unloading and for the destruction of rats, ordered by the recent decree of Sept. 21st, 1903, should be applied effectively. These conclusions gave rise to an interesting discussion. M. Monod, director of the public health service and of the Assistance Publique at the Ministry of the Interior, was the first to speak. He said that the administration agreed with the opinion of M. Josias that the old lazaret on the Ile Ratoneau was in a deplorable state, and the rebuilding of it has always been first on the list of reforms to be undertaken at Frioul. Inadequate grants of money have been a cause of delays and difficulties but this deficiency has been provided for in the Budget of 1904. The recent conference held in Paris has modified the conclusions arrived at by the Venice conference by shortening the period of observation of suspected cases and by occasionally dispensing with processes of disinfection. But this relaxation of quarantine precautions would have to be supplemented by a rigorous application of the law of 1902 which would lead to the general hygienic improvement of France. One of the great difficulties in the organisation of the Frioul establishment consisted in this, that the buildings

which were too large in ordinary circumstances would be inevitably too small in the event of an epidemic. M. Monod also maintained that the places ought to be furnished comfortably enough to prevent the persons detained there from making complaints. M. Vallin spoke in opposition to a view which has been held for the last two years—namely, that large sums would be required for the carrying out of the modifications proposed by the Academy. This, he said, was a mistake. In European ports severe epidemic diseases did not present themselves many at a time, so that it was unnecessary to provide accommodation for great numbers of persons. It might be sufficient to provide from 25 to 50 well-appointed places in the departments allotted to observation and treatment. The sanitary certificate would be of great use as soon as rigorous supervision was exercised, whereas at present it was a farce. It was also necessary to calm the fears of the people in the seaport towns in order to avoid the panics which were caused even now by reports of cases of plague. M. Brouardel pointed out that all the terms of a convention must be fulfilled by the contracting parties and that France was consequently bound to carry out the scheme adopted by the conference which had just been held in Paris. All the efforts of the representatives of France were required to secure some relaxation of quarantine precautions in opposition to the representatives of other nations who were uncompromising advocates of quarantine. There must be no misunderstanding as to the observation of individuals in connexion with the granting of a sanitary certificate and a large staff would be required in order that the observation might be effectual. It was necessary that every precaution should be taken and that the sanitary organisation should be complete, for if an accident unfortunately happened the Powers in favour of quarantine would use it as an argument against the comparatively mild system recommended by France. M. Laveran then drew attention to the necessity of destroying rats on shipboard. M. Roux said that these measures were of the greatest importance, but when the cargo on board was such as to require careful handling it might be damaged by the processes necessary for disinfecting the vessels and killing the rats. It was therefore advisable to make the following addition to the paragraph authorising disinfection previously to unloading: "Except in certain special cases in which it—i.e., disinfection—may be carried out after unloading." Both this modification and the conclusions of the report of M. Josias were approved by the Academy.

Jan. 5th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Medical Academies.

THE scheme of the Government for creating medical academies in certain important provincial towns apart from the universities but in connexion with the great provincial hospitals has been for a long time a subject of discussion in the medical and lay press. The idea appeared to be somewhat obscure, as notwithstanding manifold appeals the Government did not think it advisable to give particulars as to the organisation and the object of the projected academies. It must be remembered that medical education has hitherto belonged almost exclusively to the universities, of which the medical faculties and their laboratories, clinics, &c., are an integral part. The system is therefore different from that which exists in England where medical study is partly carried on in the medical schools attached to the great hospitals. The plan to found academies would thus have been a fundamental reform if indeed they were destined to copy the English system of medical training. The intentions of the Government are, however, far from being so radical. I learn that it will be the object of the new academies to deal not with medical study in the strict sense of the word but principally with post-graduate study, with the training of specialists, and with the so-called practical year which according to the new regulations on the medical examinations every student has to fulfil previously to being qualified.[1] Many of the details of the scheme have been made public in a Bill brought before the town council of Düsseldorf, where a new hospital of 1000 beds will be built in connexion with a medical academy. According to this Bill the medical academy will consist of five divisions: for surgery, for clinical medicine, for obstetrics, for hygiene and infectious diseases, and for pathological anatomy and forensic medicine. With the first two divisions subdivisions for the special branches for diseases of the eye, the ear, the skin, the nerves, and for children's diseases will be connected. The teachers of the academy, to whom the title of professor will be granted, are the chief physicians and surgeons of the hospital who are appointed by the municipal authorities but must be authorised by the Government. It is explained in the Bill that the academy will be charged with the instruction of specialists for the reason that a great many medical men have assumed the title of specialist without a proper special training and after having taken only a few courses of some weeks. In future only those will be recognised as specialists who have been trained in their special branch by academical teachers and who can produce certificates of competence. Another object of the academy is the arrangement of post-graduate courses free of charge for the medical men of the district, after the pattern of the courses and lectures of the Central Committee for Post-graduate Study in Berlin and other towns. Moreover, the academy will deal with the training of nurses, with popular lectures on first aid, and with general hygienic matters. The cost of the Düsseldorf new hospital will be 5 500,000 marks (£275,000) and several years will of course be required before the buildings are finished. Meanwhile the Government Medical Department will probably enter into negotiations with the municipal authorities of other large towns where the existing hospitals are suitable. The plans of the Government concerning Düsseldorf are only known by a paragraph in some lay journals and neither the medical press nor the medical profession has had an opportunity of expressing any opinions in this matter. Obviously some of the particulars are rather objectionable and will not fail to become an object of controversy, such for instance as the appointment of the hospital physicians and surgeons. Hitherto the municipal authorities were at liberty to make appointments at the hospital under their jurisdiction entirely at their own discretion. In the case of a medical academy connected with the hospital the Government will be entitled to interfere with the appointment of the medical staff which has to act also as the teaching body of the academy; also the exclusive right of training specialists will certainly be much discussed. Although certain anomalies in this respect unquestionably exist it is wrong to say that specialist training must be valueless unless guaranteed by certificates of an academy or a university. Many of our leading specialists have not acquired their knowledge at an official university clinic but as assistants to a senior private specialist or by studying abroad. Moreover, to prohibit medical men from calling themselves specialists would be accomplished only by altering the laws on medical qualification with the approval of the Imperial Parliament and not by a mere governmental decree. Concerning the practical year it would be impossible to let all the students go to an academy as the number of places would obviously be too few to receive there all the young men coming from the universities, even if some six or seven academies were established. Only a small number of them would be admitted to an academy, whilst the remainder would have to go to other hospitals not in connexion with an academy, so that from the beginning the profession would be divided into two classes, a first and a second.

[1] THE LANCET, June 7th, 1902, p. 1650.

The Frequency of Appendicitis in Germany.

It is generally believed that appendicitis has become much more frequent during the last few years than at any previous time. Opinions, however, differ as to the causes of the increase and in Germany it has been alleged that it might have some connexion with the use of enamelled cooking vessels. It is supposed that when the enamel gives way pieces may be mixed with the food and produce inflammation. This opinion is contradicted by Dr. Villaret, surgeon-general at Posen, who denies that appendicitis has at all increased. He explains that the alleged increase is due to improvement in diagnosis, as many cases which formerly were registered as peritonitis and gastric and hepatic diseases are now registered as appendicitis. He quotes from the excellent statistical tables of the German army, comparing the numbers for the periods 1873–74, 1885–86, and 1900–01, and states that whilst appendicitis has increased by 70 per cent., hepatic diseases

have decreased by 64·2 per cent., peritonitis by 70·2 per cent., and gastric diseases by 79·9 per cent. These four groups of diseases in 1873-74 attacked 4·79 men in every 1000, but in 1900-01 they attacked only 2·66 men in every 1000 so that in the aggregate they have decreased by 44·5 per cent. The alleged increase of appendicitis is thus only an apparent one.

Jan. 5th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Medical Societies and Medical Defence in Zürich.

IN Zürich there are two medical societies, the older one of which is called the Medical Society and was founded half a century ago; it has 130 members in all, the total number of medical men in Zürich being 162. Ten years ago a few members took the view that the old medical society, although excellent in a scientific respect, nevertheless neglected the practical interests of the profession and they consequently founded the Society of Medical Practitioners, which now counts 45 members, the majority of whom are members both of the old and the new society. The younger society has done good work, not only in its scientific meetings, where lectures on practical subjects and demonstrations are a feature, but also in those meetings where the material interests of the profession had to be considered. Hospital abuse, cash practice, and fees paid by insurance companies were among the subjects which have been discussed and committees were appointed the labours of which have been successful in different directions. Six months ago a Society for Medical Defence was formed for the purpose of providing its members with legal assistance and also for the collection of unpaid accounts in as unobtrusive a manner as possible. The Swiss laws do not protect the medical practitioner even as well as the English law does and abuse is rife everywhere. The Society for Medical Defence had not long to wait before its services were in request. A large socialistic workmen's union sent circulars to a number of medical practitioners inviting them to become medical officers of the union in question and in these circulars there was a paragraph the meaning of which was that no distinction would be made between medical practitioners and persons who had obtained a diploma from a physical health society. The Medical Defence Society immediately called a meeting of all the medical men in Zürich to protest against this paragraph and obtained from 160 of them—i.e., from all but two—a verbal or written consent to a request for the cancelling of this paragraph. A committee of 12 medical men was appointed to carry on negotiations with the workmen's club and to settle terms and now an agreement has been made conformable with the requirements of professional ethics. This success, due to an almost unexpected amount of unity among the medical men, is of all the more import, for a public vote will soon be taken on the question whether members of "physical health societies" are to be allowed to practise "non-medicinally," as they have carefully worded their petition, in the canton of Zürich.

Zürich, Jan. 1st.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Egyptian Lunatic Asylum.

Dr. J. Warnock's annual report[1] on the only hospital for the insane in Egypt has just been published. A second hospital or greatly increased accommodation in the present one is urgently necessary, for in order to keep down the numbers at all the Government is obliged to discharge all lunatics who are not absolutely dangerous and no case can be admitted unless it is certified as being dangerous, a point difficult to determine in a country where very few of the native medical men are trained in mental diseases and where fear of responsibility and sympathy with the lunatic are guiding influences. The public, as in other countries, obviously requires protection from discharged lunatics and many of the discharged but insane patients have no difficulty in remarrying and begetting children whom they are unable to support and to whom their father's insanity may be transmitted. The customs regulating marriage and divorce are so easy that marriage is often resorted to by the natives as a method of trying to cure the early symptoms of insanity. As an example of the need of protection required by the lunatic himself, a case is mentioned of a woman suffering from acute mania, who was admitted to the asylum with a compound fracture of the bones of the forearm, gangrene of the arm, general septicæmia, and numerous bruises and wounds of the head; these lesions had existed for some days, during which time the patient had been wandering about the streets. Among the year's improvements are electric light which has been installed and which is an immense improvement on the former petroleum lamps, for it is now possible to keep many of the dormitories almost in darkness at night and thus quiet and sleep are promoted. It is satisfactory to note that mechanical restraint is practically never used except in surgical cases, the treatment depending entirely on the vigilance of the attendants and the isolation of excited patients when necessary. Many readers will remember that all violent patients in this asylum were heavily chained to the walls less than 20 years ago. The number of paying patients is gradually increasing every year and during 1902 the relatives of the better class lunatics contributed £1520 to the expenses of the asylum, so that after deducting all receipts the net cost per patient per annum is £21. Although the water bill for the year is as high as £214 there is an insufficient supply for baths, and the arrangements in case of fire are still far from ideal when it is remembered that nearly all the inmates love cigarette smoking. The area of the asylum grounds urgently requires extension, for the public can talk to the patients through some of the windows abutting on the roadway of the desert and it is to be hoped that some day a railway line for carrying stone from the desert hills will be removed to a distance greater than 20 yards from the asylum. Mats, baskets, and cloth are manufactured by the patients, but the necessity of discharging lunatics almost as soon as they are sufficiently tranquil to engage in an industry prevents much being done. It is, indeed, often difficult to find enough quiet patients to work in the kitchen, the bakery, and the laundry, for all the cleaning of the hospital is done by patients and they also undertake the care of the buffaloes for milk-supply, the sewage disposal, the distribution of food, and the gardening. The average number of resident patients was 488 and during the year 104 former cases were re-admitted. The total admissions included 133 cases of mania, 72 of hasheesh insanity, 31 of pellagrous insanity, and 14 of alcoholic insanity. General paralysis accounted for 15 patients, or 3·7 per cent. of the total admissions, and seven of them were known to have suffered previously from syphilis. Ten of them were Egyptians, including two females, besides two Turkish women, two Italians, and one Austrian. Ten of the 67 deaths were caused by general paralysis, tuberculosis and dysentery each accounting for seven. There is no lunacy law in Egypt for criminals or others and there are several points which require to be settled, such as the liability of relatives for the cost of maintenance in the asylum and the procedure to enforce payment, the imposition of special penalties for the ill-usage of lunatics by their attendants, the duty of the local authorities to report cases of ill-usage of lunatics, the inspection of lunatics existing in charitable and religious establishments, and the means of preventing neglect and cruelty in such places. The greatest reform during the year has been the appointment of Dr. H. W. Dudgeon as deputy superintendent and he has already done much useful work. What is now wanted is money to provide for an English storekeeper or steward and for an English matron to control the female side.

Dec. 30th, 1903.

[1] A short notice of this report has already appeared in our columns.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Alleged Discovery of the Cause of Scarlet Fever.

BEFORE the Boston Medical Society on Dec. 15th Dr. Frank B. Mallory, associate professor of pathology at Harvard University, described a microbe which he believes to be the cause of scarlet fever. It is not a bacterium but a protozoon found in the epithelial cells of the skin and tongue and in the superficial lymph vessels and spaces of the corium. The protozoon is said in some respects to

resemble that of malarial fever but is larger. It is found in two forms—either as a radiated rosette or in a granular form with knotted reticulum. Dr. Mallory does not claim that this organism is definitely proved to be the cause of scarlet fever but he thinks that further research will substantiate the validity of his conclusions.

New York State Anti-Sanatorium Bill.

A Bill termed the Goodsell-Bedell Bill was enacted at the last session of the New York Legislature and signed by the governor of the State. This Bill to all intents and purposes prohibits the erection of sanatoriums for consumptives by any city in New York State outside its own limits. From the first medical men were strongly opposed to the passing of such a Bill and protests to this effect were sent to the governor. This action, however, was of no avail and the Bill became law. The New York Society of Medical Jurisprudence met recently and motions deprecating the course taken by the governor and legislature were introduced by Dr. S. A. Knopf. The motions requested the governor to repeal the law, "which, if it should remain on the statute books and be enforced, would involve the loss of thousands of lives and increase the spread of tuberculosis within the crowded districts of the cities and towns to an alarming degree." He declared that the Bill paid undue attention to property interests with no regard for the consumptives of the State.

Anti-Mosquito Convention in New York City.

A convention to devise the most efficient means of fighting mosquitoes has recently been held in New York city. The governor of New Jersey presided and Mr. Robert W. De Forest, of the Charity Organisation Society and president of the Tenement House Commission, was chosen permanent president. Motions were adopted recommending that a provisional committee be appointed by the convention to consider the formation of a central organisation of national character with which local bodies might coöperate in conducting a crusade against mosquitoes.

Antiseptic and Germicidal Properties of Glycerine.

Dr. M. J. Rosenau, director of the Hygienic Laboratory of the United States Public Health and Marine Hospital Service, has for some time been conducting investigations as to the antiseptic and germicidal properties of glycerine. Glycerine he found to possess a distinct though exceedingly feeble germicidal action. His opinion was that it cannot be depended upon to purify vaccine lymph or other organic matter containing spores of tetanus.

The Abolition of the Canteen in the United States Army.

Army officers are almost unanimous in the opinion that doing away with the canteen has been productive of much evil. At the meeting of the American Public Health Association held in Washington in October Dr. George McKober read the report of the committee on the canteen in armies. In it was sketched the history of the system since its institution at Vancouver Barracks in 1880. The canteen was officially recognised in the United States Army in February, 1889. Only light wines and beer were allowed to be consumed. The committee finally stated its belief that the sale of alcoholic liquor in canteens under rational regulations, rather than its total prohibition, will best serve the interests of temperance.

Dec. 26th, 1903.

THE FURIOUS DRIVING OF MOTOR-CARS.—Several cases have occurred during the first week of the new Act of motor-cars being driven in London in such a way as to endanger the public. One defendant, in answer to a summons, pleaded with some success that he did not know the pace at which he was travelling. In another case the summons was dismissed, as there was some doubt about the police evidence, although in the magistrate's opinion a technical offence had been committed. There are, it is said, many motor-cars on the roads which are not licensed and numbered in accordance with the Act, the machinery of the Act having proved unequal to cope with the demands put on it. If this be so it behoves owners of motor-cars to be doubly cautious in their procedure; ignorance must not be regarded as an adequate excuse and the perpetrator of technical offences must expect to be punished, however guiltless he may have been of wanton carelessness. The public must be protected.

Obituary.

JOHN KNOWSLEY THORNTON, M.B., C.M. EDIN.,

CONSULTING SURGEON TO THE SAMARITAN FREE HOSPITAL FOR WOMEN, MARYLEBONE-ROAD, LONDON, N.W.

John Knowsley Thornton, who died on Jan. 3rd, was the son of the Rev. John Thornton, curate of All Saints, Northampton, afterwards headmaster of Kimbolton School and for 30 years vicar of Aston Abbots. Born on Jan. 15th, 1845, he was educated at Rossal and spent some years in teaching and clerical work before he began the study of medicine; hence, he was 26 years old when he graduated in the University of Edinburgh. After serving as Lister's house surgeon there, he practised for a short time at Ford, in Northumberland. In 1873 his friend Dr. William Thomson, now of Algiers, was compelled to leave London on account of his health, and through his introduction Mr. Thornton became surgeon to the Samaritan Free Hospital and also assistant to the late Sir Spencer Wells in his private work. Being an enthusiastic admirer of Lister he at once began to apply the principles of the antiseptic system to abdominal surgery and for nearly 20 years his methods were practically those taught by Lister before he left Edinburgh, even the spray being retained for a considerable period after it had been discarded as unnecessary by most surgeons. It was not long before Mr. Thornton established a reputation as one of the most successful operators of the day, especially in regard to ovariotomy and other operations requiring abdominal section, and he gradually became an authority on all branches of abdominal surgery. His writings on the surgery of the kidney, the liver and gall-bladder, and the spleen were especially good and helped largely to advance knowledge of the surgical treatment of these organs. Unfortunately he was subject to frequent attacks of gout which began when he was only 18 years old and which frequently interrupted his work. Principally on this account he gave up hospital practice in 1891 though for some years later he carried on a large private practice. But gout and gouty complications of influenza laid him aside more and more frequently until in 1896 he had a severe and painful illness which stopped all work for more than six months and in 1898 he retired.

Mr. Thornton's work was characterised by great thoroughness in detail and he also seemed to have an intuitive knowledge which was seldom at fault as to the nature of a patient's disease and the most suitable treatment. During an operation complications seemed only to stimulate him, and if there was a way out of a difficulty he was sure to find it. These characteristics gained for him the confidence of a large section of the profession and of the public and there can be little doubt that if his health had been good his practice would have been measured only by his own wishes.

In addition to his appointment at the Samaritan Hospital Mr. Thornton was surgeon to the Grosvenor Hospital for Women and the New Hospital for Women, and his practice did not leave him much time for literary work. The writings to which we have alluded took the form of communications to the *British Medical Journal* or our columns, or of articles in well-known compilations. For example, Mr. Thornton wrote the articles "Ovariotomy" and "Hysterectomy" in Heath's "Dictionary of Surgery," and the article "Hysterectomy" in Allbutt's "System of Medicine." He also contributed many papers to the Transactions of the Royal Medical and Chirurgical, Obstetrical, and Medical Societies, of which last body he served as president.

Since his retirement Mr. Thornton had lived at Hildersham Hall, Cambridgeshire, one of his chief pleasures being the care of his garden. His health, although better at times, had been subject to attacks from his old enemy and during the greater part of last year he suffered much from peripheral neuritis which gradually exhausted his strength. Mr. Thornton married twice and leaves by his first wife a son and two daughters and a daughter by his second wife, a sister of Lord Windsor, who survives him.

SIR GEORGE THOMSON, K.C.B., M.B., C.M. ABERD.,

LATE SURGEON-COLONEL, I.M.S.

Surgeon-Colonel Sir George Thomson, K.C.B., late of the Indian Medical Service, died suddenly on Dec. 21st, 1903, at Leeford, Mowbray-road, Upper Norwood, aged 60 years. Sir

George Thomson was a native of Aberdeen and was a son of the late Mr. James Thomson. He was educated first at the old grammar school in Schoolhill and then at the grammar school known as "The Barn" in Old Aberdeen. He was a student of the University of Aberdeen and graduated M.B., C.M. in 1864. After leaving the University he entered the Indian Medical Service, in which he remained for 30 years, retiring at the end of that period. He became surgeon-major in 1877, brigade-surgeon in 1889 and deputy surgeon general (afterwards surgeon-colonel) in 1893. His record of service is a long and distinguished one. He was at one time civil surgeon in the Punjab and medical adviser to the Maharajah of Patiala and for several years he was principal medical officer of the Lahore military district. He served during the Afghan war of 1878-79, being mentioned in despatches and thanked by the Indian Government and receiving the medal. He was principal medical officer on the lines of communication of the Chitral expedition in 1895, for which he was created C.B. He was attached to the Malakand Field Force in 1897 and later in the year he served in the Tirah expedition as principal medical officer; for his valuable services in this expedition he was promoted to the rank of K.C.B. Sir George Thomson was married to a daughter of the late Mr. John Ferguson of Aberdeen. He leaves a widow and three sons. One of the brothers of the deceased, Major Thomson, is also in the Indian Medical Service.

CHARLES FREDERICK MOORE, M.D. GLASG., F.R.C.S. IREL., &C.

Dr. C. F. Moore died at his residence, 10, Upper Merrion-street, Dublin, on Christmas Day, 1903. Dr. Moore received his medical education in Dublin and in Glasgow. In 1842 he became a Licentiate in Midwifery of the Rotunda Hospital and in the following year a Licentiate of the Apothecaries' Hall of Ireland. A year later he qualified for the M.D. degree of the University of Glasgow and became a Licentiate of the Royal College of Surgeons in Ireland, receiving the Fellowship of that College in 1865. He received the Licence of the Apothecaries' Society of London in 1853. He was a Fellow of the Irish Royal Academy of Medicine and at one time acted as president of the State Medicine Section of that Academy. He had also held the post of president of the Dublin Sanitary Association and of vice-president of the British Association of Certifying Factory Surgeons. Of this latter association he was honorary secretary for Ireland. He was formerly an examiner in materia medica at Queen's University and of the Conjoint Board of the Royal College of Surgeons in Ireland and the Apothecaries' Hall of Ireland. He contributed many articles of interest to the medical press.

ROBERT VICARS FLETCHER, F.R.C.S. IREL., L.R.C.P. IREL., &C.

Mr. R. V. Fletcher, the resident medical superintendent of the District Asylum, Ballinasloe, Galway, passed away on Dec. 17th, 1903, after a lingering illness following an attack of influenza which he contracted last winter. The deceased gentleman was born in the year 1840. He received his medical education at Dr. Steevens' Hospital, Dublin, and in 1865 became qualified. In the following year he was appointed assistant resident medical superintendent of the District Lunatic Asylum, Downpatrick, and in 1872 became resident medical superintendent of the District Lunatic Asylum, Waterford. In 1874 he was appointed resident medical superintendent of the District Asylum, Ballinasloe, which post he held until the time of his death. A little more than 12 years ago Mr. Fletcher, who had already considerably improved the organisation and administration of the asylum, induced the governors of the institution to add a new block of buildings containing a hospital and special ward for acute cases. The institution now contains 1100 beds and the position which it holds among similar institutions in Ireland is due in no small measure to the unremitting labours of its late superintendent.

ROBERT MANSFIELD TAGERT, M.D. GLASG., F.R.C.S. IREL.

Dr. R. M. Tagert died at his residence, 12, Vesey-place, Kingstown, on Dec. 27th. He took the degree of M.D. of the University of Glasgow in 1837 and in 1845 became F.R.C.S. Irel. He was formerly medical officer to the union workhouse and dispensary at Carrickmacross, also to Farney Baronial Fever and General Hospital. For the last few years he lived at Kingstown and was a well-known and much esteemed member of the township. He was considered to be the oldest medical man in the county of Dublin, for he had reached the patriarchal age of 91 years.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Kirêleff, *privat-docent* of midwifery and gynæcology in the St. Petersburg Military Medical Academy.—Dr. Delotte, professor of internal pathology in the Limoges Medical School.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Paul Schultz, *privat-docent* of Physiology, has been granted the title of Professor.—*Bonn:* Dr. Schöndorff, *privat-docent* of Physiology, has been granted the title of Professor.—*Kieff:* Dr. Muratoff, Extraordinary Professor, has been promoted to the Ordinary Professorship of Midwifery and Gynæcology.—*Naples:* Dr. Giovanni Petella of Turin has been recognised as *privat-docent* of Ophthalmology.—*Rio de Janeiro:* Dr. T. V. Pecegueiro do Amaral has been appointed Professor of Medical Chemistry in succession to the late Professor Ferreira dos Santos.—*St. Petersburg (Military Medical Academy):* Dr. B. Petroff has been recognised as *privat docent* of Medicine.—*Vienna:* Dr. Florian Kratschmer, *privat-docent* of Hygiene and of Medical Chemistry, has been granted the title of Professor. Dr. Dominik Pupovac has been recognised as *privat-docent* of Surgery and Dr. G. Alexander as *privat-docent* of Otology.

SOME NOVEL PATENTS.—An American inventor has patented a hen's nest which consists of "a receptacle for the hen and her eggs and a trough surrounding said receptacle, said trough being designed to hold an insecticide to prevent vermin from crawling into the nest and to catch the same." Another inventor has patented a mask intended to serve for prevention from drowning. The essential feature of this mask seems to consist in "openings covered with wire-netting or gauze, said openings being encompassed by short tubes upon the inside of said mask and said tubes having automatically closing valves." Descriptions and drawings of both these contrivances are to be found in the Official Gazette of the United States Patent Office issued on Dec. 22nd, 1903.

MIDLAND MEDICAL UNION.—The annual meeting of this union was held on Dec. 8th, 1903 at the Hotel Portland, Chesterfield. The retiring President, Dr. J. Goodwin Shea, J.P., of Chesterfield, presided and was supported by Dr. George Booth, J.P. (the President-elect), Mr. R. G. Allen, Mr. J. H. Booth, Mr. A. Chawner, Dr. E. Wearne Clarke, Dr. W. Duncan, Mr. F. Edmunds, Dr. E. B. Ffennell, Dr. J. A. Goodfellow, Dr. A. Green, Dr. E. H. Houfton, Mr. B. J. Lee, Dr. G. G. Macdonald, Mr. J. A. Magee, Dr. W. M. Oldham, Mr. A. M. Palmer, Mr. C. J. Palmer, Mr. W. W. Robinson, Mr. A. W. Shea, Dr. G. T. Tate, Dr. S. Worthington, and others. Letters of regret for inability to attend were received from Dr. F. R. Cassidi, Mr. J. H. Cox, Mr. G. W. Crookes, Mr. W. B. Croskery, Dr. A. Fulton, Mr. E. G. Leary, Dr. F. R. Mutch, Dr. W. B. Ransom, and several others. A vote of thanks was passed to Dr. Goodwin Shea for the valuable services he had rendered to the work of the union during the three years he had held the office of President. The secretary read the report of the council setting out a summary of the year's work. Dr. Clarke proposed: "That the Midland Medical Union cordially approves and supports the claim which is at present being made for the establishment of a university in Sheffield." The motion was seconded by Dr. Goodwin Shea and carried unanimously. The meeting was followed by the annual dinner. After the Royal toasts had been proposed by the President (Dr. Booth) and loyally honoured, that of "The Midland Medical Union" was proposed by Mr. Simeon Snell who is one of the honorary secretaries of the committee for the establishment of a university in Sheffield. Mr. Snell in

the course of his remarks referred at considerable length to the efforts which were being made in support of the movement and for raising funds for this object. Dr. Macdonald, the Vice-President, responded on behalf of the union. The toast of "The Guests" was proposed by Dr. Clarke and responded to by Dr. A. J. Hall.

LITERARY INTELLIGENCE.—"Proposed Sterilisation of Certain Mental and Physical Degenerates" is the title of a work by Dr. R. R. Rentoul which the Walter Scott Publishing Company have in the press.

THE ANGLO-AMERICAN FOOD COMPANY.—A vendor of meat extracts, trading under this title, was fined at Liverpool on Wednesday last £5 and 10 guineas costs for selling as extract of beef, labeled as consisting solely of the juice of the finest beef, matter containing half its weight of yeast extract.

BRISTOL DISPENSARY.—The annual report of the Bristol Dispensary for 1903, which has just been issued, states that during the year 10,874 new cases were treated. 582 midwifery cases were attended. The financial statement showed that the income amounted to £2329 and the expenditure to £3337; the deficiency was met by taking a sum of £1016 from the investment account.

VACCINATION EXPENDITURE.—At the meeting of the Barnstaple (Devon) board of guardians held on Jan. 1st it was reported that during the four years, 1896 to 1899, previous to the passing of the recent Vaccination Act, 2653 vaccinations were performed in the Barnstaple union at a cost of £616, but that during the four years, 1900 to 1903, subsequent to the enforcement of the Act the vaccinations numbered 3004, the expenditure amounting to £1906.

THE ROYAL PORTSMOUTH AND GOSPORT HOSPITAL.—A searching inquiry was made on Monday afternoon last by the coroner for the borough of Portsmouth, Mr. T. A. Bramsdon, into the accuracy of certain allegations made by the relatives of a patient against the management of this institution. As a result it was conclusively found that the patient, who had died shortly after leaving the hospital at her own wish, had been treated correctly and humanely throughout.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. Alfred James Barker, M.D. St. And., late of Beaulieu Villas, Green-lanes, N., has recently retired from practice on account of advancing age. His friends and patients have taken occasion to present him with a farewell letter of address engraved in a beautiful illuminated album and accompanied with a purse. Dr. Barker has been in practice in the neighbourhood for between 40 and 50 years, and such a recognition of local esteem must give him much pleasure.—Mr. H. C. Shann, M.R.C.S. Eng., L.R.C.P. Edin., who recently retired from his position as medical officer of the York Union Workhouse, has been presented by the officials of that institution with a silver-mounted claret jug and a silver fruit knife.—Mr. S. Glanville Morris, M.D. Edin., was on Dec. 22nd presented with a gold watch and an illuminated address as a token of esteem by his numerous friends and patients. Mrs. Morris was also presented with a tea service and Miss Morris with a gold demi-hunter watch. As a joint gift to Dr. Morris and his wife the people of Llanarthney presented them with a marble clock. Dr. Morris has left Nantgaredig for Mardy, Glamorganshire, where he has accepted a medical appointment in connexion with the collieries.

DONATIONS AND BEQUESTS.—In addition to the gift of a site of 12 acres for the new buildings of King's College Hospital in South London from the Hon. W. F. D. Smith, M.P., Messrs. W. H. Smith and Son have given a donation of £1000 towards the removal fund and promise a similar amount in 1905.—Lord Amherst has given to the North Eastern Hospital for Children £100 towards the deficit of £1100 carried over from 1903. This hospital has also received an anonymous donation of £500 towards the extension of the buildings, for the completion of which a sum of £34 000 is still required.—The Evelina Hospital for Sick Children has received from the "Zunz Bequest" £5000.—An anonymous donor has given £3000 towards the endowment fund of the Hospital for Sick Children, Great Ormond-street.—The treasurer of Charing Cross Hospital has received a donation of £1000 from Mrs. Jane Gabriel for the endowment of a bed in the new wing of the hospital in memory of her husband.—Under the will of Mr. J. Lewisohn of the firm of Messrs. Lewisohn Brothers and Co., £750 are left in trust for distribution among such London hospitals as the executors may choose.—Mrs. H. A. Dodds of Cheltenham has under her will bequeathed £100 to the Bristol Royal Infirmary, £100 to the Bristol General Hospital, and £50 to the Bristol Blind Asylum.

SCHOOL BOARD FOR LONDON.—The annual report of the school management committee has just been published. It is packed with interesting details concerning elementary training of the young in the metropolis and we recommend its perusal to our many readers who now make a study of educational questions.

CENTENARIANS.—Mrs Carew-Wilson of Clifton, Bristol, has just celebrated her hundredth birthday.—The *Times* of Jan. 7th announces that Mr. Charles Green, who died at Brighton on Jan. 6th, was born at Selsey, near Chichester, on August 22nd, 1794, and was therefore in his 110th year. He was the son of a farm labourer and worked on farms in the neighbourhood of Chichester until he was 90 years of age. When no longer able to work he went to live with Mr. and Mrs. Hall, his son-in-law and youngest daughter, at Brighton. In this narrative of longevity nothing is said as to the verification of the date of Mr. Green's birth, and it is now found to be possible that he was 11 years younger than he believed himself to be.

THE PLUMBERS REGISTRATION BILL: MEETING AT THE MEMORIAL HALL, FARRINGDON STREET.—On Dec. 29th last a meeting of registered plumbers in London was held at the Memorial Hall for the purpose of the annual election of members to serve on the London Registration Committee, Mr. Charles Hudson, Past-master of the Worshipful Company of Plumbers, being in the chair. It was stated that there are now upon the register some 12,000 or 13 000 masters and operatives and it was announced that a petition to Parliament was in course of preparation in favour of the national registration of plumbers, on lines approved by the Local Government Board, as a means of distinguishing competent workmen. The desirability of some such Bill has frequently been urged in THE LANCET, for though much good has already been done by the Plumbers' Company, the promoters of the movement, it has been unable to do more than touch upon the fringe of the question, the necessary stimulus being wanting to induce the bulk of the men to join a movement which entails responsibility and expense for but little apparent advantage to themselves. If the Bill became law the case would of course be entirely altered and a proper control would be placed in the hands of the executive over the members, the numbers of whom would be vastly increased.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BONNET, W. VICTOR, M.S., M.D. Lond., F.R.C.S., M.R.C.P., has been appointed Tutor in Practical Midwifery in the Middlesex Hospital Medical School.

BUSH, PAUL JAMES, M.R.C.S., L.S.A., C.M.G., has been appointed Medical Officer to the Bristol Post Office. (Corrected notice.)

BROWN, THOMAS, M.B., Ch.B. Vict., has been appointed Resident Medical Officer to the Public Dispensary, Leeds.

CARVELL, JOHN MACLEAN, M.R.C.S., L.S.A. Lond., has been appointed Registrar to the Central London Throat and Ear Hospital.

DYER, SYDNEY REGINALD, M.D. Brux., M.R.C.S., L.R.C.P., L.S.A., D.P.H. Lond., has been appointed Senior Medical Officer to H.M. Prison, Dartmoor.

JONES, A. WEBB, F.R.C.S., has been appointed Honorary Surgeon to the Women's Wards, Alexandria Government Hospital.

MAUNDER, PERCY R., M.D. Durh., L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer to Stafford Prison.

MUDIE, R. F., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory Act for the Ladybank District of the county of Fife.

PORTEOUS, HERBERT LLEWELLYN, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer and Public Vaccinator for the Sapperton District of the Cirencester Union.

PRICE, D., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Act for the Works of Messrs. Boyd and Co., Castle Carey, in the county of Somerset.

SMITH, JOHN M., M.D. Glasg., D.P.H. R.C.P. Edin., has been appointed Medical Officer for No. 1 District of the Cheltenham Union.

VAUGHAN, ETHEL MAY, M.D. Lond., has been appointed Assistant Physician to the Department for Diseases of Women at the Royal Free Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE.—Examination of Candidates for not less than 50 Commissions in the Royal Army Medical Corps.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary at rate of £100 per annum, with board, lodging, and washing.

BIRMINGHAM GENERAL HOSPITAL.—Casualty Assistant Physician. Salary £50 per annum.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistants for three months.

CHELTENHAM GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £80 per annum, with board and apartments.

CROYDON GENERAL HOSPITAL.—Honorary Member of the Junior Staff.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

HULL ROYAL INFIRMARY.—Fourth House Surgeon. Salary £50, with board and apartments.

LINCOLN COUNTY HOSPITAL.—Senior Male House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

LEEDS GENERAL INFIRMARY.—Ophthalmic and Aural House Surgeon. Board, lodging, and washing.

LEICESTER INFIRMARY.—Assistant House Surgeon. Salary £80 per annum, with board, apartments, and washing.

LIVERPOOL STANLEY HOSPITAL.—Second House Surgeon. Salary £80 per annum, with board, residence, and washing.

METROPOLITAN HOSPITAL, Kingsland road, N.E.—Surgeon.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.—Registrar. Honorarium of 50 guineas.

NEW HOSPITAL FOR WOMEN.—Surgical Assistant, Clinical Assistants, Two Senior Assistants, and Assistant Anæsthetist.

ROCHDALE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with board, residence, and washing.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, E.C.—Honorary Surgeon. Also Honorary Assistant Surgeon.

STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—Assistant House Surgeon for six months. Honorarium of £25, with board, apartments, and washing.

TIVERTON, DEVONSHIRE, INFIRMARY AND DISPENSARY.—House Surgeon and Dispenser. Salary £80, with board, residence, &c.

UNIVERSITY OF LONDON.—Examiners—Two in Medicine, Two in Surgery, Two in Pathology, One in Materia Medica and Pharmaceutical Chemistry, and One in Mental Diseases.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon, for six months. Honorarium of £25, with board and lodging.

WEST HAM AND EAST LONDON HOSPITAL, Stratford, E.—Resident Medical Officer for six months. Salary at rate of £120 per annum, with board, residence, &c.

WESTMINSTER GENERAL DISPENSARY.—Honorary Surgeon.

WOLVERHAMPTON EYE INFIRMARY.—House Surgeon. Terms £70 per annum, with rooms, board, and washing.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeon under the Factory Act at Rothbury, in the county of Northumberland, and at Dublin, in the county of Dublin.

Births, Marriages, and Deaths.

BIRTHS.

CADDY.—On Dec. 11th, 1903, at 20, Margaret-street, W., the wife of Arnold Caddy, F.R.C.S., of Calcutta, of a daughter.

CHIENE.—On Jan. 2nd at Alva-street, Edinburgh, the wife of George L. Chiene, F.R.C.S. Edin., of a son.

KENNEDY.—On Wednesday, Jan. 6th, 1904, the wife of Angus Kennedy, L.R.C.P., M.R.C.S., L.S.A., of a son, at Plaistow, E.

DEATHS.

CREE.—On Dec. 29th, 1903, at Pinewood Sanatorium, Wokingham, Edward Russell Cree, Lieutenant Colonel R.A.M.C., aged 45 years.

HUE.—On Dec. 24th 1903, at Dresden, John William Hue, M.A., F.R.C.P. in his 84th year.

HUNTER.—On Dec 28th, 1903, at Lavender-hill, S.W., Frederick John Hunter, M.R.C.S., L.R.C.P.

PEIRCE.—On Dec. 31st, 1903, at S. Kensington, William Peirce, M.D., aged 59 years late Port Health Officer, Sydney, N.S. Wales.

THORNTON.—On Jan. 3rd, at Hilgersham Hall, Cambridge, John Knowsley Thornton, M.B., C.M., J.P., in his 59th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE DIRTY RAILWAY CARRIAGE.

A GREAT many people have travelled in trains during the past fortnight and many must have noticed the dirty state of the seats in not a few of the carriages, especially where they are upholstered. On some companies' lines the carriage seats are fairly clean, while on other lines by tapping the seat only softly and with the palm of the hand clouds of dust arise. Why do not our railway companies adopt the methods of cleaning by compressed air which are so much in vogue in the United States of America or the excellent method of cleaning by vacuum? It would surely pay the railway companies and would preserve their rolling stock and might attract fresh passenger custom to the superior classes, as no one, especially no lady, cares to contemplate sitting upon a plush-covered dust-bin and paying extra fare for the accommodation. They appear to do some things better in the United States. An independent expert who was commissioned to go out from this country not many months ago inspected several large railways there and among other things reported that he was particularly struck with the cleanliness and the excellent way in which all American cars were maintained. He did not see a dirty or untidy car, and one could go into a lavatory in any car and be sure of finding a row of clean towels and plenty of soap. Heavy carpets and hangings as well as plush seat coverings were almost universal and, notwithstanding the dirt-collecting qualities of these fabrics, they were all kept as clean as a new pin by means of compressed air brushes. The expert also seems to have been able to travel 400 miles during the day without arriving in clothes that were full of cinders. Here his experience must differ from that of many travellers in the United States. On many lines it is impossible to keep the dust out, but the car attendants in such cases are most obliging in helping passengers to brush themselves thoroughly before leaving the train.

MEDICAL MEN AND THE INCOME-TAX.

To the Editors of THE LANCET.

SIRS,—Recently I had the honour of being invited to travel a dozen miles to the county town and have a little conversation with the Income-tax Commissioners on the state of my finances. I had been informed that if I sent a detailed account this might not be necessary and having had a business training in my youth I was able to do this to a sixpence. I gave the cost of working under the following heads: expenses; rent, assistance, drugs, stabling, and sundries.

Nevertheless, the invitation came. It was the Christmas week and as the roads were bad I had to set off very early. On arrival I was shown into a room with other victims, where we spoke in awed sepulchral tones, and I had leisure to recall the fuking-room at the college in the days of my youth. After an hour or so I was called into the examination room and nothing could exceed the courtesy of my reception. The examiners were polished gentlemen, but the explanation of their wish to see me was too ludicrous. As you see, I had used the word "stabling" as an adjective, qualifying expenses and implying straw, hay, corn, harness, repairs of carriages, blacking, &c. Someone had read it as a substantive, meaning *a building*, and I had been called to explain my extravagance over stable hire. It had not occurred to the clerks that if my horses were lodged so palatially they would also require something to eat and that there would be a column for food.

In a few minutes everything was satisfactorily arranged and I was at liberty to return to my practice and make the best excuses I could to my patients. As this all occurred in the middle of an extensive outbreak of influenzal bronchitis it was a serious matter to me. Can you urge upon the *dii majores* who rule these events that if the country medical men are to be harried in this way it might be in the summer when work is little and roads are good instead of in the midst of their poor little harvest? I am informed by a friend in the service that there is to be a special whip-up for medical men and publicans.

I am, Sirs, yours faithfully,

Jan. 5th, 1904. A COUNTRY SURGEON.

THE MOTOR-CAR IN MEDICAL PRACTICE.

IN the *Car* of Dec. 30th, 1903, which is described as a journal of travel by land, sea, and air, Dr. F. P. Wightwick sets forth the advantages of a motor-car as compared with the brougham, the victoria, or other horse-drawn vehicle. Every busy medical man knows the difficulty of so arranging his list of visits that the same ground is not traversed more frequently than is necessary, a difficulty that is increased when urgent cases, which must be seen early, are situated in widely separated directions. To those who use a motor-car this is a factor of little consequence for, as Dr. Wightwick points out, the motor-car is never tired and there are no horses to consider. Again, each journey is made in much less time and two or three hours a day are saved, giving an opportunity for a reasonable amount of recreation without diminishing the average quantity of work. Another advantage is that the motor-car can be used either as an open or closed carriage and the same vehicle is therefore suitable

to all kinds of weather. With regard to cost, the initial expense is undoubtedly heavy, but not more so perhaps than the buying of two first-class carriages, horses, harness, and necessary stable appliances. Dr. Wightwick's motor is a 12 h.p. double-cylinder petrol car built by Messrs. Dennis Brothers of Guildford. It has a brougham body with extended roof and glass front, similar to the French limousine car, and is fitted with pneumatic tyres. The windows of the brougham let down in front, at the sides, and at the back, so that the amount of air can be regulated to admit almost as much as there is in front of the car, or to make it the same as a completely closed carriage. The annual cost, the writer thinks, is difficult to compare accurately with that of a carriage, since the amount of work done with a motor-car is so much greater. On an average his carriage expenses formerly came to rather more than £400 a year. The expense of his first year with a motor-car, which is based upon an actual experience of nine months, the remaining three months being calculated on the same ratio, amounts to just over £300; but this is rather a high estimate, he says, as the expenses of the remaining three months are not likely to be so great since the first nine months include the summer months and holidays, when, of course, the mileage is greater and the wear and tear are more severe. Further, the second and subsequent years will probably be less expensive as a considerable amount of experience has to be bought by the novice. The article concludes as follows. "It comes then to this, that while doing three or four times more mileage with infinitely greater comfort and marked improvement to health I spend £100 a year less, and this saving could be increased considerably by taking smaller stables in a less expensive neighbourhood (the distance from home being of little moment to a motor) and, of course, by using solid instead of pneumatic tyres, although this could hardly be advised. Another item, which is almost a necessity in London, is the heavy premium for insurance against fire, accident, and employer's liability. This sum, of course, is included in the estimate of annual expenditure above given." It should be mentioned that the writer says that he has travelled over 10,000 miles without a serious breakdown.

THE SELF-CONSUMING CIGARETTE.

To the Editors of THE LANCET.

SIRS,—I have been smoking Wills's gold flake cigarettes for some years (those sold in packets, not tins) and I notice that when a lighted cigarette is put down it burns itself away after the manner of an Egyptian cigarette. This used not to be so. Evidently something has been lately added—quite lately. I am anxious to know if this new added matter is prejudicial to health.

I am, Sirs, yours faithfully,

Jan. 1st, 1904. T. W. W.

*** We have examined the cigarettes in question and no new ingredient has been added. The observation of T. W. W., however, is quite an accurate one. The explanation depends probably upon variations in the amount of fusible salts. Tobacco that has been damped may lose a certain amount of its fusible salts and consequently tends to self-consumption. The cigarette made of such tobacco is not abnormally prejudicial to health.—ED. L.

"DUMP."

To the Editors of THE LANCET.

SIRS,—No one can fail to notice the increased use of the word "dump" which has even invaded the columns of THE LANCET. I have been rather surprised to read the opinion expressed in a "Dictionary of Americanisms," by John Russell Bartlett, published in Boston in 1877 (fourth edition) and by Messrs. Trübner and Co. in London, and which is evidently a standard work, that "the word is used in Devonshire in the sense of to knock heavily, to stamp; hence probably its American application." So probably the victorious invader is, after all, a prodigal son who has returned to the fatherland unrecognised on account of being wrapped in the Stars and Stripes. It is inevitable that this sort of thing should happen where two nations have a common stock and a common language. The famous air of "Yankee Doodle" is said by many to be an old English air called "Nankey Doodle" and to have originally referred to Oliver Cromwell. It has also been attributed to Dr. Shackburg, a physician of the British army in 1755, while others say that the words "Yankee Doodle" were taken from an old Dutch harvest song. Considering the early connexion of New York (formerly New Amsterdam) with Holland neither origin is improbable. To return to the word "dump," the shortest intelligible explanation of the word which I have yet seen is "thump," with which word it seems etymologically connected.

I am, Sirs, yours faithfully,

London, Dec. 19th, 1903. "H. DUMPTY."

A MANUFACTURER OF MECHANICAL LIMBS.

Mr. James Gillingham, surgical mechanist, of Prospect House, Chard, has forwarded to us some photographs similar to those recently accepted from him by Her Majesty the Queen showing a few of the patients to whom he has supplied artificial limbs. Mr. Gillingham's story is interesting to readers of THE LANCET. From his account, which accompanies a portrait of one William Singleton trundling him in a wheelbarrow, we learn that William Singleton was a gamekeeper to the late Viscount Bridport, who lost his arm at the shoulder-joint while ramming home a charge at the cannon's mouth, at the celebration of the wedding of the King, on March 10th, 1863. An arm was devised by Mr. Gillingham, a bootmaker, of Chard, and presented to the keeper by the inventor. When the late Sir William Fergusson saw the arm he remarked, "The ingenuity that devised and made this arm can make a leg." These words turned Mr. Gillingham from a boot manufacturer to a surgical mechanist. His original invention was favourably noticed in THE LANCET of Oct. 13th, 1866. We find, on referring to our files, that we gave full particulars of this accident to the gamekeeper with two figures of him with and without the apparatus, showing that he could make practical use of the artificial arm which several makers in London had said they could not contrive. We are glad to think that surgical instrument makers are more ingenious now than they were then, for the firm of Gillingham and Son is only one of many in the kingdom whose mechanical skill proves of incalculable value to the surgeon. This does not alter the fact that in 1866 Mr. Gillingham seems to have "wiped the eye" of the best of them. Sir William Fergusson's words appear to have fallen upon fruitful ground.

RED OR BLACK INK FOR PLACARDS?

A CORRESPONDENT writes as follows:—

"For some time past I have noticed the curious tendency of placards printed in red ink to fade within a short time under the influence of exposure to light considerably quicker than those printed in black ink. I have noticed, for example, that the placards of the National Association for the Prevention of Consumption which are posted in the carriages of various railway companies become after a comparatively short time scarcely readable, even at a distance of 12 inches from the observer, and the difficulty of discovering what the placard says is a good deal more at night under artificial illuminants. I am of opinion that good black ink is far preferable for such placards, being more durable, economical, effectual, and less trying to the eyes. I am quite sure that many persons must have noticed the curious effects presented sometimes by words, especially names, which have been printed or painted with the first letter of each word in red ink and the rest in black. After a time, at a distance of a few yards, such names as Box, Clark, and Blake become apparently Ox, Lark, and Lake. I have observed many comical effects of this sort. I can only say, beware of red ink, especially of red capital letters."

POOR-LAWS ON THE CONTINENT AND IN AMERICA.

To the Editors of THE LANCET.

SIRS,—Can you, or any of your readers, refer me to published books, pamphlets, or reports in which I can obtain information as to the working of Poor-law medical relief and sanitary administration in continental countries and America?

I am, Sirs, yours faithfully,

Jan. 5th, 1904. L. KIDD.

"THE WONDERS OF MODERN SURGERY."

UNDER this title Dr. C. W. Saleeby contributes to the January number of the *World's Work* a picturesque account of some surgical methods and appliances, but he must not expect members of his own profession to regard his article as a scientific contribution. Commencing with a sketch of the use of ether and chloroform in the production of general anæsthesia, he traces the development of antiseptic surgery, gives illustrations of its practical value, and forecasts its hereafter in the following peroration:—

If there be radium in the sun, and if the human race may therefore expect a future of, say, 50,000,000 years, then for so long will antiseptic surgery be saving lives and limbs and eyes, averting pain and sorrow and reducing weeks or months of illness to days or hours. From King Edward VII. to the nameless aboriginal treated in a missionary hospital, and from 1870 to the year 5,000,000 or so, runs the host of those whom antiseptic surgery claims for the exercise of its beneficence.

The illustration of lectures with lantern pictures thrown on a screen and Dr. Doyen's representation of surgical operations by the agency of the kinematograph next come under review, followed by references to recent improvements in Cæsarean section and to the modern operation of suturing wounds of the heart. The facilities gained for brain surgery by raising portions of the skull with the flaps of the scalp and the safety with which other incisions in bone or compound fractures (as in osteotomy for knock-knee) may be intentionally produced provide material for a column. Brain surgery leads on to excision of the Gasserian ganglion and laminectomy, after which the scene changes to gastrostomy and the feats accomplished by "ladies' doctors." The Roentgen rays naturally receive attention in a popular exposition such as this and the text is illustrated by skiagrams as well as by a picture of a patient under examination for renal calculus.

Dr. Saleeby has treated his theme in a satisfactory way, having regard to the fact that he is writing for the laity and bound by the terms of his title to give prominence to the apparently miraculous. But his memory has misled him in some points of detail—such, for instance, as the statement that antiseptic surgery was "born in Edinburgh during the memorable years (1869–77)....." Medical writers of articles for the general reader may also be indebted to him for some hints in happy phrasing. "Crisis of the maternal function" as a synonym for childbirth deserves commendation.

SUBSTITUTION UNMASKED BY THE ROMAN LETTER "M."

A CORRESPONDENT writes:—"With reference to your annotation 'Substitution Unmasked by the Roman Letter "M"' stamped on the bottom of a loaf of bread according to the Bread Acts of 1822 and 1836, I should like to warn some people who may be looking now for 'M' on the bottom of their loaves not to mistake the 'VV' which is the mark stamped on the bottom of their loaves by the 'Vis Vitæ' Bread Company for an 'M' which could easily be done. This bread is largely sold by small grocers and general shops to their customers and there are a great many of the purchasers who do not know what 'Vis Vitæ' may mean in full and when abbreviated to 'VV' they invariably take it to be an 'M.'"

THE VAGINAL DOUCHE.

To the Editors of THE LANCET.

SIRS,—Referring to this subject and to the letter of Messrs. Down Bros. I consider that the glass vaginal pipes should be made with one large hole at the end as it gives a better stream as a douche and should be used, if possible, through a speculum.

I am, Sirs, yours faithfully,
Welbeck-street, W., Jan. 2nd, 1904. HEYWOOD SMITH.

PATENT HYGIENIC UNDERWEAR.

WE have received specimens of underwear from a firm entitled the Doctor's Supply Company of Stockport, which appear to us to have much to commend them. They are soft and warm and elastic. The company are acting as agents for the Rasurel underwear, clothing made of wool and peat fibre blended, and inclose samples of these goods. We have already noticed the Rasurel underwear favourably in our columns, having had a report upon them showing that they are soft, comfortable, and do not shrink. The samples now offered for inspection, like the previous ones, are well made and finished. The address of the Doctor's Supply Company is 82, Wellington-road South, Stockport.

A SOAP TIDY.

THERE is no doubt that a considerable amount of soap is wasted in the soap dish as is obvious from the fact that much of the soap will be found in it, or below it in the case of a perforated tray being used, in a state of jelly. The "soap tidy" is designed to obviate this waste and to keep the lavatory basin and its accessories clean. It dispenses with a soap dish altogether. In the "soap tidy" the cake of soap is fastened to a strap wound on a wheel controlled by a spring. The wheel and the spring are inclosed in a neat copper box. The cake of soap may be placed in a netted bag or a cord with a ring attached may be imbedded in the soap. When the soap is required for use the cake is simply pulled downwards into the basin and after it has been sufficiently used it will return when released by the action of the spring to its original suspended position. In this way the soap readily dries instead of keeping wet and wasting. The principle is exactly that of a spring tape measure with a cake of soap tied to the end of it, the measure being fastened to the wall. The patentees are Messrs. Dean and Farrar, Well-lane, Halifax.

THE REMOVAL OF HOUSE REFUSE.

A CORRESPONDENCE is taking place in the *Times* on the evils of the present system of removing house refuse, a matter with which we have on several occasions dealt in these columns. Under the heading of "How not to do it" Sir Henry Thompson has called attention to the insanitary methods of dust collecting adopted by the local authorities in London and judging from the interest taken in the matter by other correspondents it would seem that public attention may at last be aroused to the fact that the present system of removing house refuse is a pernicious one. We hope that the London County Council and the municipal authorities of the City and the boroughs will lend a ready ear to suggestions for reform. The present Lord Mayor of London, when sitting on the bench at Guildhall recently, is reported to have referred to the opinion of Dr. W. Collingridge, the medical officer of health of the City, that loafers turning over the contents of dustbins constituted a danger to the public health, as "sanitary madness." Dr. Collingridge was, of course, perfectly right in insisting upon the risks to public health that follow upon the disgusting practice and we trust that Sir James Ritchie has now altered his opinion. Sir Henry Thompson points out that the transference of house refuse to the dust carts by means of coarse wicker baskets is a completely wrong method and suggests that the dust cart should give place to a vehicle containing light metal receptacles with covers, which receptacles should be filled from the house and taken directly to the carts. Another correspondent suggests that dust vans should be "light skeleton vehicles holding a number of covered galvanised iron bins and as the collection is made from house to house an empty bin should be left to take the place of the one removed." Such a system would have obvious advantages and the trifling additional expense entailed would be compensated for by the increased health and comfort of everyone concerned.

"DOODLE DASHERS."

THIS appears from a report of a recent meeting of the Torquay town council in this week's *Torquay Directory* to be the name given to certain paper brushes used on the Torquay pier on the occasion of fêtes. The brushes are poked into each other's faces by gay sojourners at Torquay, while even members of the Baths and Pier Committee are alleged so to disport themselves. In spite of such grave support, and of the statement made by a town councillor that "hundreds of visitors would be disappointed if they could not use 'doodle dashers' in their innocent recreation," a recommendation of the sanitary committee of the town council to prohibit the sale of "doodle dashers" upon the pier was carried. It was shown that this form of "innocent recreation" was dangerous and insanitary.

Owen writes:—"I shall feel much obliged if any of your readers will be kind enough to give me authentic information on the following points: 1. Where can I refer to recorded cases of a permanently separate odontoid process of the axis or second cervical vertebra in man? 2. Does the comparative term 'neurapophysis' apply only to the lamina of a vertebra, or does it include the corresponding pedicle as well?"

Recently Qualified.—The best course is to consult a practitioner of recognised standing in the neighbourhood. The circumstances as detailed point to the advisability of not accepting the invitation to contest the appointment.

Mr. G. P. James.—The address of the Medical Defence Union is 4, Trafalgar-square, W.C.; secretary, Dr. A. G. Bateman. The address of the London and Counties Medical Protection Society is 31, Craven-street, Strand; honorary secretaries, Dr. H. Woods and Mr. A. G. R. Foulerton.

M.O.H. will find the exact situation discussed in our pamphlet "Difficulties under the Infectious Diseases (Notification) Act."

E. F. B. C. is recommended to pay no attention whatever to a perfectly natural condition of things.

ERRATUM.—In our analytical notices last week, under the heading of "India Pale Ale," the name of the firm should have been given as *Warwicks* and Richardsons. The former name was mis-spelt "Warricks."

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat, (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (16th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (11th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Papers:—The Use of Serum and other Inoculations in Pyogenic Infections: (1) Mr. W. G. Spencer: Antistreptococcus Serum.—(2) Dr. A. E. Wright: Inoculation in Staphylococcus Infection.